

Paper-Maker

British Paper Trade Journal.

WITH WHICH IS INCORPORATED

THE WOOD PULP MAKER.

THE INDEPENDENT AND PRACTICAL JOURNAL FOR THE PAPER AND WOOD PULP TRADES.

Vol. LIX.—No. 5.

MAY 1, 1920.

ONE SHILLING AND SIXPENCE.

By post, 2/6.

CONTENTS.

LITERARY.	PAGE.	ADVERTISEMENTS.	PAGE.	ADVERTISEMENTS.	PAGE.	ADVERTISEMENTS.	PAGE.
English China Clays, Ltd.	570	Agren, Axel, H.	640	Walloways, Ltd.	701	Page, Chas., & Co., Ltd.	641
True Parchment Paper	570	Aktieselskabet Phoenix Papirfabrik	620	Gibson, Arthur L.	700	Parsons & Whittemore, Inc.	698
The Wages of Paper Mill Workers	571	Andrews & Co., Ltd.	670	Gouyeau China Clay & Stone Co.	iv Cover	Parsons Trading Company	620
H.M. Stationery Office's Contracts for Paper	573	Anglo Norse Paper Agencies, Ltd.	674	Gordon, Watts & Co.	658	Pennan & Co., Ltd.	671
LEADER: The Budget	573	Ashbrooks Limited	656	Gorton, Edward, Ltd.	662	Perry, W. R., Ltd.	696
The Paper Lining in America	573	Ashton, Frost & Co., Ltd.	673	Gota, Sulfat A/B	572	Phillips & Co.'s Standard Publications	670, 684
My Note Book	575	Astrup & Co., H.	637	Great Western Railway	670	Phillips' Paper Trade Directory of the World	675, 702
Complimentary Luncheon to Mr. Stanley Cousins	585	Auld & Sons, Ltd., David	610	Green & Son, Ltd.	637	Polchin, H. D. & Co., Ltd.	605
The Demand for Paper in Italy	597	Ayers, Ltd.	690	Greenhalgh & Co.	656	Politt & Wigzell, Ltd.	644
OBITUARY:		B. A. T. & T. J.	651	Grose & Stocker	701	Porritt & Spencer, Limited	650
The Late Sir John Thomas	598	Baker, Charles, & Co.	702	Gumolius, Ltd.	672	Price & Pierce, Ltd.	670
The Late Mr. Augustin Spicer	598	Barrow, W. S., & Son, Ltd.	701	Hambs-Smidt Solo	650	Proctor, Jas., Ltd.	696
The Late Mrs. J. W. Whyte	598	Becker & Co., Ltd.	622	Hardman, Thos., & Sons, Ltd.	591	Proctor, Johnson & Co.	731
The Late Mr. A. Smalby	599	Belgian State Railway	672	Hardy, Geo. F.	678		
A Tour to Norway and Sweden	600	Hennis, Ed., & Co., Ltd.	614	Harpers, Ltd.	iv Cover		
British Press Representatives' Visit to Finland	600	Hentley & Jackson, Ltd.	681, 685	Hazewood & Sons, Ltd.	640	Ralston, W., & Co., Ltd.	674
The United States Pulp, Paper and Other Markets	600	Berner and Nielsen	663	Hedding: Trapport A/B	650	Rasmussen, Sime & Jefferies, Ltd.	645
Novel and Useful Papers: Sulphur Paper	600	Bertram, James, & Son, Ltd.	620	Hick, Hargreave, & Co., Ltd.	610	Reddaway, F., & Co., Ltd.	iv Cover
New Companies	600	Bolotin de la Industria y Comercio del Papel	678	Higginbottom, G. & B., Ltd.	702	Redfern & Co.	678
Paper Shortage: More Trouble Threatened	600	Boving & Co., Ltd.	681	Honeywell Bros.	644	Ridgway Sales Co., Ltd.	647
Revision of Australian Customs Tariff	600	Bowater, W. V., & Sons, Ltd.	625	Hodge Sherriff Paper Co.	576	Riley & Co., Ltd.	680
The Hobb Paper Co., Ltd.	600	British Dye Stuffs Corporation	600	Huyck, F. C., & Sons	590	Royley, Limited	697
The Cornish China Clay Industry	600	Brotherhood, Peter, Ltd.	663	Heaton, Ltd.	642	Rozolene Co., The	618
New Patents	600	Itou & Forth	647			Rushion, Edward, Son & Kenyon	680
"Waste in Whitehall"	600	Brummer, Mond & Co., Ltd.	703			Russ-British Chamber of Commerce	700
British Wood Pulp Association	601	Cameron & Co.	618				
Our Stiff Chest	603	Canadian American Machinery Co., Ltd.	643	Jackson & Brother, Ltd.	661	Sabel, Paul, & Co.	610
Paper Imports and Exports: Rise in Value	600	Cardwell, J. L., & Co., Ltd.	641	Leib Brothers, Ltd.	679	Salvesen & Co., Ltd.	658
Marriage of Mr. Herbert B. Brindley	607	Carmichael, Peter, & Co.	638	Johnson, C. H., & Sons	692	Sampson & White, Ltd.	690
Openings for the Paper Trade	608	Chadwick, Lunt & Co.	620			Sandoz Chemical Co., Ltd.	670
Northern Notes	600	Chalmers, E., & Co., Ltd.	696	Kenyon, W., & Sons, Ltd.	696	Saville, Marvet & Co., Ltd.	iv Cover
Mr. G. R. Hall Cairne and his Mission to Canada	610	Chemical Engineering Co.	690	Kenyon, James, & Son, Ltd.	700	Shelko Ball Bearing Co.	605
Messrs. Bentley and Jackson, Ltd.	610	China Clay Trade Review	670	Kempster, Edward, & Sons, Ltd.	683	Spicer & Son, Ltd., James	657
Another Order from Canada	610	Christie, Geo., Ltd.	681	Knapton, A/B	603	Stancourt, Sam, & Mur	iv Cover
Scottish Notes	611	Church, Geo., & Co., Ltd.	684	Kjellberg & Hjelberg	647	Stonier & Co., Ltd., F. & G. N.	680
Mr. F. W. Vickery's Distinction	613	Clarke, Chapman & Co., Ltd.	607			Straker Squire, Ltd.	661
Finland's Raw Material	613	Clayton Aulinc, Co., Ltd.	672			Sutcliffe Bros.	640
Australian News	615	Clegg & Son, Lewis	657	Lancaster & Tonge, Ltd.	iv Cover		
Technical and Engineering Notes	617	Cole, Murchant & Morley, Ltd.	610	Lang Bridge, Ltd.	648	Thornton & Co., Ltd.	690
Paper Deterioration in Storage	617	Cookson Bros.	698	La Papeterie Espanola Co., Ltd.	690	Torp Drugs A/S	614
General and Foreign News	618	Crookes, Roberts & Co.	691	Langton & Co.	646	Truman & Son, A. W. K.	610
The Markets	610	Culter Mills Paper Co., Ltd.	704	Leitch, John V., & Co.	698		
Finance	621			Leu Trum, Ltd.	690		
THE WOOD PULP MAKER. Supplement.		Davidson & Co., Ltd.	691	L'Industria Della Carta	678	United Alkali Co., Ltd.	iv Cover
The Future of the Swedish Pulp Trade	621	Davies, G. E., & Co.	630	L'Industria Della Carta	678	United States Metallic Packing Co., Ltd.	701
British Paper Stock Merchants' Association	624	Dawson, John, & Son	648	Lloyd Dye Manufacturing Co., Ltd.	672	United Wire Works, Ltd.	655
Business at the British Industries Fair	624	Diamond Lubricating Co.	642	Lonsdale Bros., Ltd.	642		
The Mill that was never Built	624	Diamond State Pulp Co.	648	Louf's Barnbrook	690		
Twenty-four Years Ago	625	Drysdale & Co., Ltd.	682	Lundgren, R. L., Ltd.	iv Cover, 661		
Pulp Situation in Belgium	625	Duxbury & Sons, Ltd., Yates	574				
Canadian Paper Industry	625			Manchester China Clay Co., Ltd.	702		
The Wood Pulp Markets	620	Eburite Paper Co., Ltd.	616	Marshall, T. J., & Co., Ltd.	iv Cover		
Board of Trade Returns—Imports	627	Edwards & Son, Ltd., W. H.	646	Marx, R. J.	694		
Conservation of Pulpwood Resources	628	Ekmans Export Aktiebolag	648	Mason, Scott & Co., Ltd.	695		
Board of Trade Returns—Exports	630	Elektro-Ilvaach & By-Products, Ltd.	637	Mather & Platt, Ltd.	693		
The Decay of Paper in Hot Climates	632	Electromotors Ltd.	697	Matthews & Co., Ltd., William	674		
Foreign Letters	634	English China Clays, Ltd., and fruit	680	Mayer Coating Machines Co.	699		
Swedish Pulp Mill Engineers and Japan	634	Escher Wyss & Co., S.A.	660	Meadards Merchandise, Ltd.	702		
Canadian News	636	Evans, Norman	648	Milne, James, & Co., Ltd.	698		
American News	636			Mitchells, Ashworth, Stansfield and Co., Ltd.	692, 694		
		Fairbanks, Morse & Co., Ltd.	662	Musgrave & Co., Ltd.	654		
		Farmer, Sir James, & Sons, Ltd.	704	Musgrave, John, and Sons, Ltd.	694, 690		
		Featherston, Henry	660				
		Feenelon Co.	640				
		Ferguson, Hardy, S.	678				
		Forester Paper Co. (1917), Ltd.	614				
		Fox, Stockell & Co.	677				
		Forth & Clyde Coal Co., Ltd.	612				
		Fraser & Chalmers Eng. Work	660				
		French Paper Stock Co.	612				
		Fullerton, Hodgart & Barclay, Ltd.	681				

ENGLISH CHINA CLAYS, LTD.

INCREASED DEMAND FOR CHINA CLAY.



HE first annual general meeting of English China Clays, Ltd., was held on the 14th ult., at the Institute of Chartered Accountants, Moorgate Place, E.C., Mr. R. Martin (chairman and managing director) presiding.

The Secretary (Mr. H. S. Andrew) having read the notice convening the meeting and the report of the auditors.

The Chairman, in moving the adoption of the report and accounts, said that, as the shareholders would be aware, china clay had suffered as the result of the war. It was anticipated that when the armistice was signed the much-needed revival would promptly take place, but that unfortunately proved to be too optimistic, for for the first six months of the year were as bad for their trade as any period during the war. The position was aggravated by the lack of united policy during the time the negotiations for the amalgamation of the three firms were in progress, it being impossible to decide on the best methods of sale, etc., so long as there was the possibility of the negotiations falling through. As soon, however, as the amalgamation became an accomplished fact, and the board were able to get to work, strenuous efforts were made to recover the lost ground and the second half of the year retrieved the position. The company had a potential annual production of approximately half a million tons of clay, and was placed in a unique position to take full advantage of any boom that came along. The contracts they had booked for 1920 indicated a generally increased demand for china clay, but until conditions in Europe became more stable, until Germany and Russia were able to restore their credit, and until the rates of exchange between France, Belgium, Italy and this country reverted to something nearer the normal, he was afraid there was very little prospect of a return to anything like the pre war position of the industry. During the war, owing to the impossibility of obtaining supplies of clay from England, such countries as America, Germany, Sweden and Denmark developed their own domestic clays to an enormous extent, and this was a serious menace to the English china-clay trade. They hoped that the lower freights which they were expecting would enable them to get the clays in at somewhere near a rate which would compete with these foreign clays. So far these clays had not to a great extent been in competition with the clays of this company, inasmuch as the bulk of their production was confined to the best qualities. Mr. Walter Sessions, one of the managing directors, had been recently to America, where he secured good business for the company and laid the foundation for capturing a larger share of the America business. With regard to the future, he thought he might safely say that, provided better transport facilities were available, there were no serious labour troubles, and that adequate supplies of coal were forthcoming, they could look forward to a prosperous year. Orders in hand were quite good, and shipments for the three months of the present year were practically already double what they were in the corresponding three months of 1919.

Mr. T. Medland Stocker, J.P., joint managing director said that the great difficulties which had confronted them was generally realised, and he thought that the shareholders might very well be pleased with the results that had been achieved. He referred to the very cordial relationship which had been established between the management of the three old firms and it had been a most happy amalgamation.

Mr. Walter Sessions, also a joint managing director, said that the world's demand for China clay was really

great, and there was much latent energy in the country awaiting development. It was to be observed that only since the amalgamation had taken place during the latter part of 1919 that they had experienced the beneficial results. He was assured that the future prospects of the firm were very encouraging. Mr. Sessions desired to associate himself with the comments of Mr. Stocker as to the very satisfactory relationship which had been established between the three companies.

A dividend of 7 per cent. on the preference shares and 5 per cent. on the ordinary shares was approved, and the usual formal business having been transacted, the meeting terminated with a vote of thanks to the Chairman, who paid a tribute to the office staff during the period of transition. The merging of three large companies had entailed an enormous amount of work and they were indebted to them for the assistance they rendered.

TRUE PARCHMENT PAPER.

DEFINITION BY AUSTRALIAN GOVERNMENT.

THE Australian Commonwealth Department of Trade and Customs recently published for general information the following decision:

True vegetable parchment, as commercially known, is a kind of paper which has been prepared from unsized paper by treatment with sulphuric acid or other suitable chemicals. When boiled in a glass flask for fifteen minutes in a solution prepared by dissolving 10 grammes of caustic soda in 100 cubic centimetres of water, the paper should show no marked disintegration when, after boiling, the contents of the flask have been agitated vigorously for one minute. The bursting strength, as ascertained by means of Ashcroft's or a similar paper-testing apparatus, should indicate a strength ratio of the dry as compared with the wet test of not more than 3.4. This test should be conducted by taking the average of ten bursting tests on the dry paper and the average of a similar number of tests on the wet paper immediately after soaking for fifteen minutes in water maintained at a temperature of approximately 80° C. The average number of pounds per inch obtained in the wet test, divided into the average figures for the dry test, will give the ratio.

Example:

Bursting strength—dry, 51 pounds,
wet, 29 pounds.

$\frac{51}{29} = 1.7$

Ratio, = 1.7

The paper must not contain any size or dressing nor any mineral oil, saponifiable matter, waxes, or resins. After soaking in water the paper should show comparatively clean, sharp edges when torn. The presence of occasional fibres forms no detriment. The above reference to "size or dressing" is not intended to apply to glycerine or glucose, a small proportion of which is necessary to give the parchment the desired flexibility. Parchment treated with only glycerine or glucose shall therefore not be excluded from Tariff Item 334 (H) on that account.

Tariff Item 334 (H) designates true vegetable parchment by itselfs not less than 8 by 38 inches or its equivalent as cutu nec if made in the United Kingdom and 5 per cent. ad valorem if the product of all other countries.

Mr. H. D. Dixon, general manager in Australia for Collins Bros. and Co., Ltd., who left Sydney on March 12th by the *Megantic* on a business trip to England, was presented by the staff of the Sydney house with a gold watch. Mr. Dixon was also the guest of a number of heads of firms in the paper trade.

THE WAGES OF PAPER MILL WORKERS.

DECISION OF THE INDUSTRIAL COURT.

THE findings of the Industrial Court in several matters affecting the paper-making industry were issued on the 16th ult. Mr. D. C. Cummings acted as arbitrator.

The terms of reference were as follows:

(1.) What was the "normal" week prior to the adoption of the national agreement of July 20th, 1919. (2.) Rates for probationers taking up skilled and semi-skilled work. (3.) Rates for juniors doing work of adults. (4.) Rates for employees working on two shifts of eight hours each. (5.) Time when week-end work begins. (6.) Interpretation of last sentence in clause 1 of the national agreement.

The following is the report of the Court, which was signed by Mr. Cummings:

The matter was referred under the Industrial Courts Act, 1919, by the Minister of Labour to the Industrial Court for settlement and representatives of the parties were heard in London on March 31st, 1920.

In July, 1919, as the result of conferences between the parties an agreement was reached between the Executive Council of the Employers' Federation of Papermakers and representatives of the Amalgamated Society of Papermakers and the National Union of Printing and Paper Workers. This agreement was ratified by the several parties on July 20th, 1919.

Clause 11 of the above-mentioned agreement provided for the appointment of a Joint Committee consisting of three members from each side to discuss any questions of interpretation of the agreement. A committee was set up and discussed the questions now submitted, but as an agreement could not be reached, the matter was referred to arbitration as provided in the clause referred to.

The Court have carefully considered the contentions of the parties with reference to the definition of the "normal" working week prior to the agreement of July 20th. It appeared that the question at issue had reference to men who are classified as day workers, *i.e.*, other than shift workers. The decision of the Court is that the normal working week prior to July 20th, 1919, for these workers was one of 60 hours.

It was stated at the hearing that, as "regards item (2) of the terms of reference, an agreement as follows had been reached between the parties that after a continuous probation of 12 months a man should be considered skilled. That during the period of probation one-third of the difference between his previous rate and the full rate of the job to which he is promoted shall be paid to the employee for the first six months, two-thirds of the difference after six months, and the full rate from the end of twelve months. The difference between the rate paid to the employee promoted and the full rate to be equally divided between the firm and those (if any) supervising the employee promoted."

The Court approve this agreement and issue it as their decision.

The decision of the Court regarding item (3) of the terms of reference is that juniors, both shift and day workers, 18 years of age and over, doing the work of adults and included in the classes specified in class 3 of clause 4 of the agreement of July 20th, *viz.*, fillers-in, rag choppers, men, loaders, liquor-makers, kollergang-men, pan-men, tower-men, drainer-men, wood pulp potcher-men, bleach, clay and size mixers, oilers and greasers, sawyers, belt repairers, sheet carriers and general labourers, shall be paid the adult rates provided for in that clause for those classes, *viz.*, 1s. 3½d per hour for shift workers and 1s. 2d. per hour for day workers.

With regard to item (4) of the reference, the Court decide that the rates of employees working on two shifts of 8 hours each shall be those applicable to shift workers.

With reference to item (5) of the reference, the decision of the Court is that the week-end overtime rates of shift workers, as provided for in clauses 1 and 6 of the July agreement, commence after the completion of the normal working week for those workers, namely, 44 hours.

It was agreed between the parties at the hearing that the Court should not be required to deal with item (6) of the reference, as any differences arising under the provision in question could more suitably be settled by the parties having regard to the merits of each individual case. The Court, therefore, made no order on this item of the reference.

The Court's decision on items (1) and (5) of the terms of reference shall take effect from the date on which the agreement of July 20th, 1919, came into operation. The Court's decision on items (2), (3) and (4) of the terms of reference shall take effect from the beginning of the first pay period after the date hereof.

PAPER SUPPLIES FOR H.M. STATIONERY OFFICE.

CONTRACTS were placed during March last by H.M. Stationery Office for supplies of paper of various descriptions with the following firms:—James Baldwin & Sons, Ltd., Kings Norton; W. & R. Balston, Ltd., Springfield, Maidstone; The Burley Paper Works Co., Ltd., Burnley; Cardwell & Co. (Paper-makers), Ltd., Inverkeithing, Fife; Edward Collins & Sons, Ltd., Kelvindale, Maryhill; Alex. Cowan & Sons, Ltd., Valleyfield, Penicuik; Robert Craig and Sons, Ltd., Moffat, Airdrie; James R. Crompton and Brothers, Ltd., Elton, Bury; Fisher & Co., Ltd., Kettlebrooke, Tamworth; Reed & Smith, Ltd., Silverton, Cullompton; R. Sommerville & Co., Ltd., Creech, Taunton; Spicer Brothers, Ltd., Eynsford, Kent; Ulverston Paper Co., Ltd., Furness, Ulverston; Wiggins, Teape & Co., London; Ramsbottom Paper Mills, Manchester; Golden Valley Paper Mills, Bristol; *Daily Telegraph Mills*, Dartford, Kent; Wm. Wright, Marlow; R. Fletcher & Sons, Manchester; Star Paper Mills, Feniscowles; Lepard and Smiths, Ltd., London; T. Chalmers & Co., Linlithgow; Mr. A. E. Mallandain, London; Fourstones Paper Mills, Fourstones; J. Shackleton, Bradford; F. J. Bradstreet, London; Smith, Stone & Knight, Bristol; S. Jones & Co., London; J. Hadden & Co., Reddish; West & Partners, London; Allot, Jones & Co., Liverpool; Drake, Driver and Leaver, Ltd., London, E.C.; S. C. & P. Harding, Ltd., London; The Crusader Manufacturing Co., Walthamstow; Stratford, Ltd., Manchester; Esco, Ltd., London; The Hendon Paper Works Co., Ltd., Hendon, Sunderland; The Northfleet Paper Mills, Ltd., Northfleet, Kent; Olive and Partington, Ltd., Turn Lee and/or Barrow; Cooke & Nuttall, Vale Mills, Horwich; Guard Bridge Mills, Fife; Fisher & Co., Tamworth, Lincs.; Hollingworth & Co., Maidstone; East Lancashire Mills, Radcliffe, near Manchester; J. B. Green & Son, Maidstone; Thomas & Green, Woolbarn, Bucks; Smith, Anderson & Co., Leslie, Fife; C. Marsden & Sons, London, E.C.; A. Pirie & Sons, Bucksburn; T. B. Ford, Ltd., Londwater; H. Band & Co., Brentford; H. & L. Skater, Ltd., Macclesfield; Drawing Office Supplies, Ltd., London, E.; Wellington & Ward, Elstree, Herts; P. & J. Arnold, Ltd., London, N.; Norton and Gregory, London; Lloyd's Packing Warehouse, Manchester; A. M. Peebles & Sons, Lanes; J. Spicer and Sons, London, S.E.

According to the *Labour Gazette* employment in the paper trade during March continued good, a slight improvement being reported from some districts. Returns furnished by employers show that during the week ended March 27th last the number of workpeople was 12,300, being 1.6 per cent. more than in the previous month and 24.3 per cent. more than a year ago. The total wages paid during the same week was £36,216, an increase of 8.3 per cent. and 67.1 per cent. respectively.

SULFITAKTIEBOLAGET GÖTA

— GÖTA, SWEDEN. —

Manufacturers of

G. T. WOOD PULP

EXTRA STRONG AND CLEAN.

*Dry, Unbleached Sulphite
Cellulose Pulp.*

*Wet, Unbleached Sulphite
Cellulose Pulp.*

Annual Output : 25,000 tons, dry weight.

Agents for Great Britain and Ireland :-

O. REICH & Co.,

24, MARTIN'S LANE, CANNON ST., LONDON, E.C.

THE Paper - Maker

AND

British Paper Trade Journal,

WITH WHICH IS INCORPORATED THE

WOOD PULP MAKER,

THE INDEPENDENT AND PRACTICAL JOURNAL FOR THE PAPER TRADE.

Founded by S. CHAS. PHILLIPS, M.S.C.I., &c.

Subscription, 21/- per Annum. Post Free.

Published on the 1st of Each Month.

EDITORIAL, ADVERTISEMENT, AND PUBLISHING OFFICES,

47, CANNON STREET, LONDON, E.C.

Branch Office: 448 and 450, Produce Exchange, Manchester

Telegraphic Address,

"SONICA, LONDON."

"SONICA, MANCHESTER."

Telephone: No. 5420 (Bank).

A.R.G. Code 5th Ed. No. 14 City Manchester.

ADVERTISEMENT TARIFF.

For Consecutive Insertions for not less than one year.

For ordinary issues only.

	ONE PAGE	HALF-PAGE	THIRD-PAGE	QUARTER-PAGE	FIFTH-PAGE	SIXTH-PAGE	EIGHTH-PAGE	
..	£10 0 0 PER INSERTION
..	£5 10 0
..	£4 5 0
..	£3 15 0
..	£3 5 0
..	£2 17 6
..	£2 10 0

Twenty per cent. extra will be charged for less than one year's consecutive insertions.

Special Positions from £15 15 0 per insertion.

Double Rate for Annual and International Numbers.

SPECIAL PAGES IN COLOURS EXTRA.

Parliamentary Notices, Prospectuses, etc., 2/6 per line, calculated single column.

Small Single column advertisements, such as Wants, &c., 2s. per line.

Alteration in current Advertisements must reach this Office not later than the 15th of each Month prior to the publishing date, as owing to the increasing circulation of this Journal we are compelled to commence printing early

VOL. LIN.

MAY 1, 1920.

No. 5.

THE BUDGET.

THE 1920 Budget was awaited with the keenest anxiety, and business men have the right to feel aggrieved that the Chancellor of the Exchequer, a Member for a commercial constituency, has intimated that he will stand or fall by the Excess Profits tax.

Whatever the House of Commons may decide, Mr. Chamberlain has firmly intimated that the Excess Profits tax must stay, and this means that any hopes the business community may have entertained that the Chancellor might modify his demand in this direction and at least forego the 20 per cent. increase on the Excess Profits tax have been dispelled. No one complained seriously against the tax as a war impost—it was clearly introduced as such—and it was also quite as clearly understood that it should not be continued in that particular form as a peace demand. As an emergency it was accepted philosophically—although everyone knows such a tax is an incentive to evasion, extra-

vagance and recklessness. The corporation tax is certainly as unpopular and unjust as the so-called excess taxation, and it is clear that the Chancellor has an eye on the evasion of super tax by the process of piling up reserves or the distribution of bonus shares. We do not share the view that the increased excess profits tax will necessarily mean increased cost of essential commodities, but we think it must be admitted that the ordinary business man will not be inclined to over-exert himself to extend his business, or make extensive and expensive plans for the future if any increased earnings is to be handed over to the tax collector.

There is a feeling also that with reasonable economy and the avoidance of unnecessary expenditure, the demands for the public services could be enormously reduced. It is said that the state of the world is such that men cannot avoid making abnormal profits. This doctrine is a distinct danger, and in the paper trade it would, if followed in practice from the pulp maker to the consumer, be disastrous. We must recognise the new standard of values, but the tendency to force up prices and abstract the last farthing from the purchaser cannot be for the eventual good of either producer or consumer.

THE PAPER FAMINE IN AMERICA.

The paper shortage in the United States, especially in respect of "news," appears to have reached so critical a stage that American newspaper publishers have urged upon the Secretary of State the necessity of compelling Canada into lifting the embargo on the export of pulpwood by the employment of retaliatory measures. Such a situation is not without elements of danger to the relations normally existing between the Dominion and the United States, and it is not impossible that it will lead to regrettable tension if it is allowed to continue. Shortly stated, the facts are that the United States is experiencing a shortage of pulpwood through the reckless cutting of its own woodpulp areas in the North East and Lake States; that there has been an almost total lack of development of the pulpmaking industry in the Western States and South Eastern Alaska, where there are large supplies of timber eminently suitable for newsprint manufacture; and that the Provincial Governments of Canada in refusing to permit the export of pulpwood grown on Crown lands are naturally unwilling to exploit their forests without regard to conservation, but are perfectly willing to continue to send to the United States most of their output of print paper. It is under such circumstances that certain American publishers propose to threaten Canada with economic reprisals of some kind or other. A curious feature of this campaign is that the newspapers of one well-known syndicate which, as mentioned by a New York correspondent, "is conducting throughout the country a virulent anti-British campaign, especially offensive to Canada, is dependent on Canada for 90 per cent. of its supplies of paper." It would, therefore, appear that economic reprisals is a game two can play at, though we sincerely hope that the good sense of the American and Canadian authorities will prevent matters going so far.

MESSRS. ANDREWS & Co., LTD., the well-known pulp agents, have removed from 91, Queen Victoria Street, to Blackfriars House, New Bridge Street, E.C.4. Their telegraphic address is "Arborarius, Fleet, London," and their telephone numbers are City 5913 and 5914.

Yates Duxbury & Sons Ltd.



MILL NUMBER
153.



MILL NUMBER
208.



Heap Bridge Paper Mills BURY, LANCS.

Makers of

**Fine E.S. Printings and Writings
Antique Laid and Waves
E.S. Cartridges & Parchment Waves
Superfine Tinted Writings**

Packing for Export a Speciality

Sole London and Export Agents :

CHARLES E. CORKE & CO.
45, LUDGATE HILL - - E.C.4.



Telephones :
CENTRAL 802 & 803.

Telegrams :
'INTERWOVEN, CENT, LONDON.'

MY NOTE BOOK.

"A chiel's among ye takin' notes"

The birthday party at the Connaught Rooms on April 8th was a great tribute to the popularity of Mr. Stanley Cousins—especially in these trying times when paper consumers, great and small, are in a very unenviable position, not only in consequence of the high prices, but more particularly in regard to the universal shortage and the uncertainty regarding the future.

It is also a fact that there were more representatives of the important daily papers present at the gathering than at any previous function connected with the paper trade in England, and it is significant that great papers—*The Times*, *The Telegraph*, *The Daily Mail*, *The Chronicle*, *The Pall Mall Gazette*, *The Morning Post*, and several other dailies—reported the remarks of Viscount Burnham and Mr. Cousins pretty fully, evidence that the paper question is one of pressing public importance.

Viscount Burnham is entitled to be listened to with respect as he speaks for Fleet Street and all the newspaper world represents, and His Lordship, as proprietor of the *Daily Telegraph* mills at Dartford, knows first hand something of the trials of the paper-maker in these times.

One well-known pulp man said, jocularly: "What a pity the luncheon was fixed so as to clash with the wood-pulp meeting." The explanation was that Mr. Cousins' birthday could not very well be advanced or postponed, and the consequence of the clashing was that only two gentlemen attended the Pulp Association meeting, and I fancy most of them were quite happy at the Connaught Rooms.

The speeches made will bear careful perusal, and, from the journalistic standpoint, make "good and solid" copy. They were also quite characteristic of the gentlemen who delivered them: Viscount Burnham, eloquent and in the style of the cultured and practised parliamentary orator and public man with a wide vision; Lord Riddell, clever and witty with a touch of sarcasm; and Mr. Cousins' contribution, direct, businesslike, and in a hurry to get the ordeal over.

The gathering was rendered notable by the presence of great consumers of paper, and had not Mr. Jeremiah (Hulton's) been prevented by a prior engagement from attending, the company would have included the biggest consumers of paper in Great Britain, and I do not recollect at any previous gathering such a top table as—Viscount Burnham, Lord Riddell, Sir T. V. Bowater, Sir George Newnes, Sir Campbell Stuart, Mr. W. R. Codling, C.B. (Stationery Office), Sir Andrew Caird, and the influential committee: Sir Howard H. Spicer, Mr. F. E. R. Becker, Mr. Fred W. Bowater, and last, but by no means least, Mr. A. E. Linforth, a gentleman who very modestly exercises great power in the paper and publishing world.

It cannot be said that the facts and figures presented will provide very cheerful reading for the paper buyer, and there is abundant room for illimitable enterprise in Canada without Sweden, Norway or Finland suffering materially, at least for a long time to come.

I observe that one of the great dailies said that the Birthday Luncheon was "under the auspices of the Fifty Club, a social institution, the members of which are mostly in the paper trade." I am afraid I was responsible for that not absolutely accurate comment. A well-known

newspaper man called upon me and asked how these very pleasant and rather unique gatherings originated, and I told him that some years ago a few influential paper men desired to pay a popular confrère a compliment, and the excuse was a gathering on that gentleman's fiftieth birthday. And curiously, the original list of invitations sent out numbered fifty—all being Mr. Cousins' personal friends—but the list grew until it was more than trebled. There are others coming along, and I have good reason for knowing that the gathering together of the great producers and buyers of machinery, pulp and paper does a great deal of good in various ways—apart from the social side.

I may now tell another little tale out of school: When Mr. Cousins was first approached as to celebrating the fiftieth anniversary, he asked to be excused, but was eventually prevailed upon to assent.

One titled gentleman said to me: "If you have not a name for your birthday club, what about 'The Pirates' or 'The Brigands' or 'The Profiteers'?" Then someone said: "How would 'The Forty Thieves' do? Then we could include printers and newspaper men?"

Lord Riddell, in his naive way, said to me, "I'm over fifty—worse luck."

The gathering was in many respects unique, and I question whether there has been a more distinguished assembly in the paper and allied trades of "big guns" at the celebration of what was, of course, a purely personal compliment.

I have already referred to Viscount Burnham as a paper-maker and a newspaper proprietor, and will only add that one scarcely likes to think of any public gathering of paper and newspaper men at which he is not present in some capacity or other. As a matter of fact I believe he is one of the greatest divers-out in the public service in London, and it is not unlikely that on the average he makes at least one speech per day. In this connection it may be said that his speeches are always well phrased and well worth listening to.

Another member of the Upper House present was Lord Riddell, whose interests in the publishing world are most extensive as may be gathered from the fact that he is a director of *The News of the World*, Ltd., George Newnes, Ltd., C. Arthur Pearson, Ltd., *Ladies Field*, Ltd., and *Country Life*, Ltd. Lord Riddell received his peerage chiefly, I think, for his services at the Peace Conference where he made the wheels go smoothly for the British Press. His lordship like Viscount Burnham is quite a familiar and honoured figure at social gatherings in connection with the paper and newspaper trades, and when he rises to speak one may be sore to hear wit and humour of the best.

It is scarcely necessary to mention that one of the best known and most popular men present was Ald. Sir T. Vansittart Bowater, Bart., whose association with the paper trade as head of the firm of W. V. Bowater & Sons, Ltd., requires no advertisement in these columns. Sir Vansittart claims Manchester as his native place, but he came to London as long ago as 1880 and since that period has identified himself with the corporate life of the city in many capacities, culminating in that of Lord Mayor of London in 1913-14. It is safe to say that there has been no more popular Chief Magistrate, and that his period of office will ever be memorable for the fact that it was during the last three months of his year that the Great War broke out.

(See also pages 652 and 653.)

"Foster Imperial Trade"

(MR. LLOYD GEORGE)

AND SPECIFY

WAYAGAMACK KRAFT.

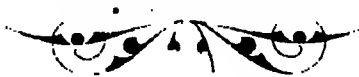
Canada gives a 33½ per cent. Preference to British Manufacturers.



"The equal of any Scandinavian Kraft Paper, and a matter for congratulation that such a high quality is being produced in the British Empire."—Extract from *World's Paper Trade Review*.



MADE IN BRITISH EMPIRE.



SOLE AGENTS:

Hodge-Sherriff Paper Company,

CRAVEN HOUSE, KINGSWAY, W.C.2.

117, RUE CAULAINCOURT, PARIS, 18e.

Telephone : REGENT 402.

Another distinguished personage at the "high table" was Sir Frank Newnes, Bart., who is associated with a number of paper consuming enterprises, notably that of George Newnes, Ltd., founded by his father; *Country Life*, Ltd.; C. A. Pearson, Ltd.; and *Westminster Gazette*, Ltd. Before entering upon business life Sir Frank graduated as M.A. and LL.B. at Cambridge University and was called to the Bar in 1898. For four years he sat as Liberal member for Bassetlaw and during the war acted as Sub-Lieutenant in the R.N.V.R. and subsequently as a captain in the 12th Bedfordshire Regiment. Sir Frank and Lady Newnes are popular figures in society and their names are frequently identified with charitable enterprises.

* * *

Although not quite so familiar to the man in the street, Sir Andrew Caird, K.B.E., is another prominent man in the publishing world. As a director of Associated Newspapers, Ltd. and the Anglo-Newfoundland Development Co., Ltd., Sir Andrew occupies a position of great importance in the paper-making and paper consuming trades. He is yet on the sunny side of 50 and two years ago received the K.B.E. for his services as Administrator of the New York headquarters of the British War Mission to the United States under Viscount Northcliffe. As a devotee of the "Royal and ancient game" he is a member of the Royal St. George's Golf Club, Sandwich.

* * *

Yet another gentleman who came into the limelight very much during the war is Sir George A. Sutton, Bart., who won high honours as a director of publicity in the National War Bonds Campaign in 1917. The success which he attained in this capacity was unmistakable and led eventually to his baronetcy. Sir George is a member of that brilliant band which Lord Northcliffe always seems to have had around him. As long ago as 1889 he joined the staff of *Aspects*, and three years later he became a director of the Amalgamated Press, Ltd., being appointed vice-chairman in 1913 and Chairman in 1915. Sir George is also a director of Associated Newspapers, Ltd., and of the Imperial Paper Mills, Ltd.

* * *

Sir Campbell Stuart, K.B.E., was another prominent figure present, and as Deputy Chairman of the *Times* Publishing Co., he is certainly entitled to rank as one of the leading men in the newspaper publishing trade. Sir Campbell Stuart is a comparatively young man and has earned his honours early in life. Like many of the young men who have attained prominence in our commercial, political and social life he is Canadian born, and the war gave him the opportunity of playing his great abilities at the service of the Empire. In January, 1917, he represented the Headquarters Staff of the Canadian Army on the occasion of the visit to Ireland of the Duchess of Connaught's Own Irish Canadian Rangers, which battalion he recruited in the province of Quebec for service in the European War. Subsequently he became an Assistant Military Attaché at the British Embassy, Washington, and afterwards was Vice-Chairman of the London Headquarters of the British War Mission to the United States of America. In May, 1918, he became Deputy Director of Propaganda in enemy countries and may thus be said to have exercised an important influence upon that disturbance of enemy morale which eventually led to the Armistice. In addition to his connection with the *Times*, Sir Campbell Stuart is a director of the Associated Newspapers, Ltd., and of the Anglo-Newfoundland Development Company.

* * *

Among others to whom reference should be made were Mr. W. R. Codling, C.B.E., who, last year, was appointed to the important position of Controller of His Majesty's

Stationery Office. In that capacity he is King's Printer of Acts of Parliament and Holder of Copyright in all Government Publications by Letters Patent under the Great Seals. For his services at His Majesty's Stationery Office he received the honour of M.V.O. in 1914, and was appointed Deputy Controller in 1917. Mr. H. A. Vernet will be recognised as the late Controller of Paper, in which capacity he won the confidence of paper manufacturers and paper consumers alike. Mr. J. S. Elias is another representative of a great publishing house, Messrs. Odhams, Ltd., of which he is managing director, while Mr. A. E. Linforth is also well-known as a director of the Amalgamated Press, Ltd., and the Imperial Paper Mills, Ltd.

* * *

A few days ago I had a chat with a gentleman who has spent six weeks in France, Belgium, Switzerland, Germany and Austria, and has carefully studied economic conditions in those countries. He is firmly convinced that, despite our anxieties, we in Great Britain and Ireland are infinitely better off to-day than any of the other countries mentioned, and sees little prospect of Germany settling down for a long time ahead. Apart from the enormous influence of the adverse exchange, he found that throughout the Continent of Europe the agitator is busy and the demands for higher wages and shorter hours have already produced a condition of things altogether different to those prevailing prior to 1914.

* * *

Mr. Harold Phillips recently spent some weeks in Sweden, Norway and Finland, and the great producers in those countries make no secret of their troubles. The serious aspect of the work and wages problem lies in the fact that there seems to be no finality in the demands—some of which are almost incredible. It is well also to realise that when once concessions are given they will not be surrendered without a struggle.

* * *

At a paper makers' meeting not long ago, someone said the old meeting places of paper men and those who wished to meet the paper men are things of the past.

* * *

When in the "land o' cakes" recently, I noted, however, that there are still a few of the old Brigade to be found in George Street, Edinburgh, about noon on the Wednesday, also a few recruits. Many of the old faces have disappeared.

* * *

Someone said to me: "You will see Mr. Tod, the President of the Papermakers' Association here in a few minutes," and quite punctually that gentleman appeared.

* * *

Mr. Turnbull (Chalmers) the genial was also on parade, and his expert opinion on the outlook would afford cool comfort to the mill manager who is buying hand to mouth. Mr. Turnbull seemed to share the view expressed at the recent Paper Stock gathering, that the rag merchants are almost giving their stocks away and he was corroborated by another eminent paper-stock man from Glasgow. But quite seriously it must be conceded that in some mills the paper-stock men have saved the situation, not only during the war, but since. Mr. Turnbull accepts these troublesome times philosophically, and he was kind enough to give me his views on the Budget. He said—

* * *

At Leith Walk (James Bertram & Son), Mr. White and Mr. Taylor had much of interest to report.

* * *

In the first place, I would like to congratulate Mr. Taylor on being in harness again after a long and very painful enforced rest. A serious operation was followed by five months' absence from business. Happily the operation was successful.

MILLS

219

414

123

417

430

EARLY DELIVERIES AVAILABLE

*Finest English Copying, White and Buff
Cream Laid and Woves, Music Papers
No. 1 & No. 2 Grade Printings, Cheque Papers
Finest Glazed Imitation Parchment*

REELS AND SHEETS

NATIONAL PAPER & PULP
COY. LIMITED

Paper Mill Owners & Agents

66 UPPER THAMES ST., LONDON, E.C.4

TELEPHONE:
CENTRAL 981
" 1844

CABLES:
"WOODPULP, CANNON,
LONDON."

In these times of scarcity a great deal is being heard of bamboo as a valuable fibre. So far as I can ascertain very little of value that is new has been learned concerning bamboo of late, and most of the facts published recently were given out some years ago. When at Leith Walk I wished I could induce Mr. White and Mr. Taylor to give me some of the valuable information they possess, as engineers who have worked confidentially in this direction for a very long time past.

Nearly twenty years ago I saw at Leith Walk a consignment of bamboo to be experimented upon—and I saw the crushing machinery and other plant. It may safely be said that what the firm of James Bertram & Son do not know concerning the possibilities of bamboo in the paper mill is not worth knowing.

The new 110-in. machine made by Messrs. James Bertram and Son is now being erected in the Ford Paper Works. The drive will be of the well-tried Leith Walk type, and the equipment includes two high-speed engines, four glazing calenders, Leith Walk strainers, and other accessories, including cutters, seven beating-engines, bleaching towers, pumps, Leith Walk save-alls, etc.

Messrs. James Bertram & Son are engaged on two other machines for Great Britain, and their order-book includes a bamboo plant for India and a model plant on the latest lines.

It is gratifying to know that the concern with which the names of the late Mr. Lumsden and the late Mr. Oliver will always be associated is now in a healthy condition. Mr. MacIntyre has, with the assistance of Mr. Graham, infused new life into the Milton House Works. It is not an easy matter to fill the places of engineers like Mr. Lumsden and Mr. Oliver, but a great deal has been done of late, and the work executed under the new regime is giving great satisfaction. The Milton House Works is, in fact, doing quite well, both from the customers' and shareholders' point of view.

Messrs. Milne & Son have recently sent out the first machine made in this country for South Africa. It is a small machine for browns, and is to be installed in the Premier Paper Mills, Johannesburg. A new machine for Japan is under construction in the Milton House Works and two other of the latest type of paper-making machines (for British mills) are also being pushed forward by Messrs. Milne. Other work includes reelers and beaters and other important work.

When at the Sciennes I noted a roll of honour, and the record is one Messrs. Bertram, Ltd., will doubtless treasure. It conveys a good idea how Scotland came forward in the great war. The roll reminds us that of those who went eighteen made the supreme sacrifice, and the record tells us that several were "Killed in Russia," "Killed in France," "Killed in the Dardanelles," "Died of wounds received in Palestine," and so on.

Messrs. Bertram, Ltd., are very busy indeed, and although Mr. Sam Milne and Mr. Henderson are amongst the most secretive of the many unobtrusive gentlemen in the paper trade I happen to know, it is no secret that the Sciennes has been entrusted with the entire equipment of a big new undertaking now being laid out for one of the leading British firms. This is only one of the big orders the Sciennes firm is engaged upon, and they will be very busy for a long time to come.

In the early days of the war I found Mr. Greig, of guillotine fame, in a disconsolate frame of mind—his only son

had joined a well-known Scottish Regiment and given his parents a shock. But the young man has fortunately come safely through the war after numerous hair-breadth escapes, and he has now taken his place as his father's lieutenant at Fountain Bridge. Mr. Greig, junior, will, I predict, uphold the traditions of the firm.

I hope to say more regarding Fountain Bridge "in my next."

At Messrs. Thornton & Co.'s offices I had the pleasure of meeting several well-known paper men, and had an opportunity of congratulating the ever-genial Mr. James Tullo on being appointed a Justice of the Peace. Mr. George Tullo reported business remarkably good.

Mr. James Tullo, and the rest of the honourable high constables of Holyrood are in strict training in view of the forthcoming visit of His Majesty the King in the early summer. By the courtesy of the Moderator, and with Mr. James Tullo as guide, I inspected some of the sacred adjuncts to Holyrood, and I can understand why the hard-working King's bodyguard look so happy and so well.

Messrs. Thornton & Co. are extremely good and are making considerable extensions at their headquarters.

Mr. W. D. Dixon, of Markinch, is to virtually retire shortly, and his mill will be controlled by an important concern which has already acquired other Scottish mills.

I once heard Mr. W. D. Dixon described as a man "who looks like a gentleman and is one" and having no son, no doubt he feels the time has come when he is entitled to take matters easier and hand over the active control to others. I hear that Mr. Dixon will remain on the new board for three years. His many friends wish him well.

Mr. Arthur MacFarlane (The United Wire Works) was good enough to tell me much that was interesting and of value in connection with paper-makers' wires upon which subject he is, of course, an accepted authority.

I learned from Mr. MacFarlane something regarding the many difficulties the producers of machine wires have had to overcome, and are still combating, and I ascertained that despite the shortage of material and increased cost, and the ever-growing wages bill, the paper machine wire manufacture had avoided increasing the prices of wires to paper mills for two years. In order to meet the increased cost of production, however, a new price list had now become imperative, very much to the regret of the United Wire Works management.

I learned something of the demands of the modern "news" machines in the matter of wires, and Mr. MacFarlane said they were now engaged on a wire 90 ft. long, and were well equipped for the requirements of the most progressive mills, and could undertake a wire 100 ft. long.

Notwithstanding that the United Wire Works now roll their own wire, and make right through from the ingot to the machine wire ready for putting on the paper-making machine, there are difficulties even yet in obtaining raw material, and after all, the paper-makers have much to thank the British wire firms for.

Mr. T. T. McCrow was in London last week, looking happy and well despite ever-soaring prices and the cares of the busy man who has to cater for the paper mill under to-day's difficult conditions.

When in Edinburgh the other day I was reminded that it is nearly fifteen years since Mr. McCrow established himself at 100, Princes Street—the office with the incomparable outlook—and I was pleased to note that Mr. George W. McCrow (who was admitted as partner last year) has made an excellent recovery from severe injuries received whilst on active service with the Argyles.

Mr. G. W. McCrow is very modest as to his "bit" in the great war, but his friends know that his regiment was on several occasions in the thick of it, and he stopped two German machine-gun bullets, and suffered severely. Mr. G. W. has had the good fortune to have had some practical experience with Mr. Wallace, of Carrongrove, one of the really great paper-makers in Scotland.

Mr. T. T. McCrow's staff at "100" also includes at the moment Mr. John W., the younger son, known to his intimates as "Mr. Jack." Like his brother, Mr. Jack has gained very useful practical experience in a mill with a well-earned reputation.

The news of the death of Mr. Russell Adam, at the age of 27, cast quite a gloom over those associated with Carrongrove, and many others who had the pleasure of the acquaintance of the unfortunate young gentleman, whose fatal accident has prematurely cut short a very promising career. Mr. Russell Adam was a nephew of Mr. Wallace and held a responsible position at Carrongrove.

A paper-stock man gave me a shock by saying: "I'm going to serve you with a writ Mr. PAPER-MAKER for a gross libel." He relieved me by saying that a sketch published in our April issue had been the subject of endless chaff from his friends. But I found consolation when he asked me to let him have the original to hang on his office wall. So I suppose it cannot have been a very atrocious caricature.

In Edinburgh I "struck" two shining lights of the paper trade hailing from Manchester. There were five of us, and being gamblers a shilling sweepstake on the "City and Suburban" was suggested and agreed to. A Lancashire Scotsman, residing at Birkdale, won the stake—five shillings—and was so elated that he insisted on paying for five glasses of whiskey at a famous hotel not far from Waverley Station. "Five whiskies and sodas, eleven shillings please," said the waiter with a sob in his voice. No doubt racing on these lines is nearly as exciting—if not so profitable—as selling paper.

I also met a debonair figure, who, when at home is to be found in Produce Exchange Buildings, Manchester. He was tripping along George Street wearing a smile several inches deep and he seemed to be quite elated. He had placed a substantial order for paper—a great achievement in these times.

The Scottish engineers are very busy indeed, but, with characteristic caution, I am precluded from mentioning the many interesting things I learned of work in hand and important work expected—and of tremendous orders on the books.

One machine built in Edinburgh for fine paper is now being erected in the North of England and all the important firms in Scotland have a bright outlook if the workers will co-operate to a reasonable extent.

Very pleased to find Mr. Menzies at the West End Engine Works looking himself again. "Overwhelmed with

business," he reported, and he told me much that was interesting and gratifying.

Many years ago, on the occasion of my very first visit to the West End Works, the late Mr. David Thomson warned me very emphatically what would happen to me if I "put into print one word regarding him" and that injunction impressed me greatly.

Mr. James Thomson is back at business again, and at the West End the works are going at full pressure.

I learned also that the North British Rubber Co., Ltd., Edinburgh, who do such an extensive business in rollers for paper mills, have been full up with orders for some considerable time. Large numbers of rollers have been turned out recently, including several to France, a number to India to the order of an Edinburgh firm, and others to large users at home. This department of the firm is still busy turning out rollers for home and abroad.

In the near future it is hoped that facilities will be obtained for handling a greater number of rollers. Simultaneously the opportunity will be taken to adapt the plant to allow for the constantly increasing dimensions to which paper-making machinery is extending and even to anticipate further requirements in this direction.

The many other articles, such as deckle straps, hose motor tyres, machine aprons, vulcanite doctor blades, etc., made by the North British Rubber Co. are still in constant demand.

This company of course also manufacture rubber belting for driving machinery and for conveyor purposes, piston packing sheet rubber, and the many rubber goods incidental to machinery and papermakers' uses generally.

Messrs. George Christie, Ltd., reported a very full order book. They have, as most papermakers know, been equipped for anything the papermaker may aspire to as regards size of wires, and have been for some time past spending sleepless nights in order to give their clients as great satisfaction as circumstances permit. There is no more progressive firm in the trade than Messrs. George Christie, Ltd.

I met Mr. Carlaw, of "Leader" envelope fame. The demand for envelope machines is a significant sign of the times. And British firms are amongst the most insistent for machines of the latest type.

Every paper-mill manager in Scotland with whom I chatted frankly says he is booked up for a long time ahead, and is not at all keen on accepting new business. Opinions differ as to how long the paper shortage may last. After all, no one can say with any certainty. One said "a year at least," another "two years," and one sad individual predicted a "five years' famine all over the world."

Meanwhile the big British paper-makers' engineers are "snowed under" with orders, and one of my friends said that apart from the machines for exportation, at least twenty new paper-making machines are already placed for England and Scotland, and quite a number of mills are anxious to extend.

It is significant that Canada is so extraordinarily keen on new machines—British-made—and the reports I hear as to the enterprise of the big Canadian mills indicate the part the Dominion is determined to play in the commercial life of the Empire at no distant date.

I recently had the honour of meeting one of Canada's great men—Lord Atholstan, proprietor of the *Daily Star*, Montreal, and other Canadian newspapers, and president of this year's Imperial Press Conference, in connection with which the delegates will visit some of the largest paper mills in Canada.

"Before I sailed for England," his Lordship said, "I had the most convincing proof that the visit to Canada in July of the leading publishers of Great Britain, Australia, New Zealand, South Africa, and India has awakened a keener interest throughout the Dominion than any similar event in the history of the country."

One Canadian gentleman says he would not be surprised to see the output of pulp and paper doubled during the next decade. That it will develop enormously there is no doubt, but the question of machinery and equipment cannot be ignored in this consideration.

Someone has been good enough to send me a cutting—I regret the source is not given—giving the views of a correspondent who is evidently inspired as to the book publishing business, which is stated to be fast approaching a crisis.

I may add that when in Scotland enquiries verified, to a considerable extent, the seriousness of the book publishers' troubles at the moment, and it is agreed these difficulties are not likely to diminish in the near future.

The paper question is by no means the only trouble, binding cloth and binders' wages are going up tremendously, and the correspondent says:

"The paper mostly used for well-turned-out novels—70-lb. antique wove was priced at 7½d. last October, and rose to 8½d. in February. Last week it was quoted generally at between 9½d. and 9½d. Next week, according to all accounts, it will have reached the abnormally high figure of 11½d., from which price it is only a matter of days until it leaps to the shilling per lb. In the binding trade some of the workers in the more important grades are asking for an extra £1 per week. A meeting of certain book-binding employers was held in London last week, but no decision of importance with regard to combating the ever-increasing expenses was come to. The truth of the matter is that publishers will need to charge at least 9s. for some of their *smallest* books soon, if they are to clear at all. I know one novel, to be published shortly, which has cost just over 5s. 6d. per copy to produce—that is, without any expenses, establishment or otherwise, being taken into consideration. This book has to be sold to the trade at a 'third off,' so a price of 9s. cannot be considered exorbitant."

"This authority says that one way of solving the paper difficulty is to obtain comparatively small lots from Scandinavia—small lots sent direct to the publishers themselves, while large lots from the usual actual paper suppliers are ignored."

This is rather a desperate course and cannot be generally followed by the publishers. It must also be remembered that wholesale stationers and merchants here and elsewhere are alive to the value of odd lots. Certainly the large publishing houses cannot attach much importance to such an unreliable source of supply.

I hear that Mr. R. J. Triggs has circularised the wood pulp agents in the London district with a view to arranging a golf match, possibly about the end of May or early in June, between the agents and their clients, on some suitable course to be decided later. Mr. Triggs will be pleased to hear of wood-pulp gentlemen who care to participate as representing the pulp agents. Those interested should drop a line to Mr. Triggs at 31, Ludgate Hill. Presumably the "field" will be limited to say eighteen contestants (or rather less) on either side.

I believe 31, Ludgate Hill, claims three gollers—Mr. George Buchanan, Mr. Triggs, and Mr. Aubrey Batchelor.

It might be worth while for the pulpites to arrange a match amongst themselves—say London v. The North. I shall have "my bit" on the northerners.

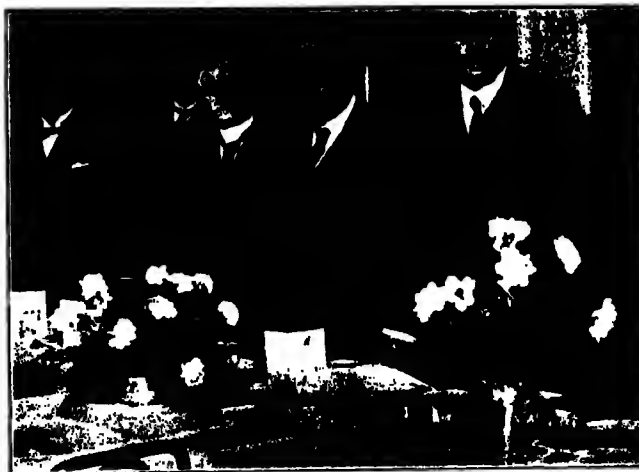
The *Financial Mail* suggests that if the price of paper continues to rise, some boot and shoe manufacturers will be compelled to revert to the use of leather.

The British Wood Pulp Association is not, numerically, a large body, and it was therefore remarkable that at the annual meeting held on the 16th ult., Mr. L. P. Andrews had the melancholy duty of referring to the deaths of three members—Mr. Albert E. Reed, Mr. Johnsen, and Mr. Ryder, all three having passed away quite recently.

In pre-war times the wood pulp dinner was unquestionably the trade dinner of the year, and there is a possibility we may have a revival of the popular function. I imagine that if the personal feelings of the members could be really obtained, a fair proportion would be in favour of it and another section would be rather apathetic. The late Mr. Albert E. Reed was not given to what he once termed "extravagant dinners," but I know a fair number of pulp men who can really enjoy good fare and conviviality.

It is no secret that Mr. D'Oyley Mears has been very unwell for some time past—hence his retirement from the office of hon. secretary will not cause any surprise. Mr. Mears has for more than half-a-century been a picturesque figure in the paper trade, and I believe he claims to have been the first mill manager to give wood pulp a fair trial in this country. It is also said that years ago Mr. Mears lent Lloyds mill a ton of pulp to tide them over a temporary shortage.

Two of the good old annuals cropped up at the meeting of the Wood Pulp Association—the "contract note" and "excess moisture." Mr. Charles Greenhalgh was quite correct in stating that the everlasting question of excess



WELCOME TO LORD ATHOLSTAN.

The photograph shows Lord Milner, Lord Atholstan, Lord Bunsby, and the Duke of Devonshire on the right.

EDWARD LLOYD, LIMITED.

Paper Makers.

Head Office:—

**4/7, SALISBURY COURT,
FLEET STREET, E.C.4.**

Telegraphic Address :
"TRIENNIAL, FLEET, LONDON.

Telephone Number :
7155 CITY (8 Lines).

NEWS. PRINTINGS.

PAPER MILLS:

Sittingbourne, Kent.
Vittingfos, Norway.

Production :

**150,000 TONS PER
ANNUM.**

MECHANICAL WOOD PULP MILLS:

Honefos, Norway.
Vittingfos, Norway.

Production :

**80,000 TONS PER
ANNUM.**

moisture is at present causing a good deal of soreness, and possibly an exchange of ideas between the experts in Scandinavia and the British analysts might clear the air.

* * *

In another column a correspondent deals with the all-important subject of "Waste in Whitehall," and refers particularly to the potential demands of the Stationery Office. Salaries, wages and allowances claim £400,000 in the estimates, "paper for public departments" absorbs £2,200,000, and the total reaches the stupendous sum of £5,280,442.

* * *

I suppose all the innumerable official limpets must have paper "to burn," and those of us who have any intimate knowledge of officialism will not be surprised if the Government printing works to be created at a cost of £500,000 at least will not prove another costly experiment for the unfortunate taxpayer. It is fair to Mr. Codling and his staff to remember that the duties of the Stationery Office are largely executive, and the demands of the Houses of Parliament and the Government departments must be met when the estimates have been passed. Anyone with expert knowledge must be amazed at the waste in connection with Parliamentary and other Government publications, and it is obvious that the Select Committee has only touched the fringe of the evil of departmental extravagance.

* * *

The holidays in Lancashire and various parts of Yorkshire are confusing to those who do not know the customs in the various localities in the two great counties mentioned. I have before me a letter from a well-known paper firm in the North and the heading bears the following intimation:

"These offices will be closed during 1920 as follows:
April 2, 3, 5. May 22, 24, 27, 28, 29. July 31.
August 2."

* * *

I recently received a very interesting letter from Mr. James A. Cameron, President of the Cameron Machine Co., of Brooklyn, New York. I shall not be surprised if this enterprising company is not here on this side very shortly, and I understand that trained engineers and expert operators, thoroughly trained in all the technical points of the "Camachine" line of slitting and re-winding machines which the firm have developed in a period of over twenty years devoted exclusively to this class of machine. These men are coming over here to demonstrate what the Cameron machines are capable of.

* * *

Mr. Albert Mickleburg, once associated with Messrs. Albert E. Reed & Co., and now joint managing director of Messrs. Tilling-Stevens Motors, Ltd., Middlesbrough, has been good enough to send me a copy of the "Tilling-Stevens Gazette," a house organ run by employees for the employees. Mr. Mickleburg makes no secret of the fact that the management of the Tilling-Stevens Company is to encourage welfare work and to get rid of enmity between capital and labour, and to appreciate the fact that the interests of the workers and the employers have necessarily much in common; also that the worker has an existence outside the shop.

* * *

The new "Gazette" has a preface from the joint managing directors in which they say: "We sincerely hope that this little journal will be the means of drawing us closer together, of cementing friendships, of removing any little suspicions that might exist, and to create an atmosphere that will make us feel exhilarated in our work."

In the editorial preface I read that "experience has proved that only by clear mutual understanding and

genuine co-operation can the best results be achieved. We are standing on the threshold of a new era. The work of reconstruction has commenced in spite of the state of things in general, and in spite of disappointments and temporary inconveniences the great march of progress has begun. It is intended to foster the spirit of *cameraderie* and good fellowship, the spirit that beat the Hun and the spirit that can beat down the monster of discontent and distrust."

* * *

I congratulate all concerned on the general excellence of the illustrations and reading matter in Number 1 of the "Gazette," and although the house organ has a particular interest for Messrs. Tilling-Stevens' workers I have read it through from cover to cover and have not found a dull page in it.

* * *

The many friends of Mr. G. P. Fleming, proprietor of the Drimnagh Paper Mills, Luchicore, were probably unaware of the fact that under the nom-de-plume of "P. George," Mr. Fleming indulged in racing in a modest way, and I noticed in a well-known Irish illustrated paper a picture of Mr. Fleming and a photograph of "Bessie Bell," the winner of an important race in the Irish capital a short time ago. Mr. Fleming has recently been appointed to the Commission of the Peace and he is also very prominent in Freemasonry and has received high honours. He has important interests in Ireland, outside paper making.

* * *

I note that the Stockholm correspondent of a financial contemporary would almost appear to have given a clue to the cause of the shortage of paper in America. He states that great sensation has been caused by the sale of immense quantities of American shoes in the Swedish market of exceedingly inferior quality, and adds: "The Swedish Shoemakers' Union have asked the authorities to interpose, as the soles and heels of the American shoes have been found to consist of pure paper, which is strictly forbidden in Swedish law, if the shoes are to be sold as first-class goods." Pure paper! Hello, America!

* * *

The members of the London Rambling Society recently visited the Museum of the Royal College of Surgeons. This fact would not, probably, appeal to readers of these notes in the ordinary way, but they may be interested to know that among the many curious specimens to be seen were some splints, such as are used today, in position on the forearm of a girl, wrapped round with papyrus about 1500 B.C.

* * *

I read that "the coming year promises to be quite an active one for the organisation, owing to the exchange situation and the difficulty of buying pulp in Europe because of the increasing foreign competition."

* * *

A well-known Lancashire paper man gave evidence of character in the charge against Mr. Charles Diamond, who was found guilty of publishing in the *Catholic Herald*, of which he is the proprietor, an incitement to murder Lord French, and was sentenced to six months' imprisonment in the second division. As a good deal of hysterical bosh has been written regarding the case it is not uninteresting to note what the article in question really said. It ran as follows: "If Lord French were Field-Marshal von der Goltz; if he were representing Germany in the occupation of England and doing here what French is doing in Ireland, would there not be thousands of patriotic Englishmen ready to shoot him down, and millions more ready to applaud the deed?" I think I am in touch with the representative pressmen who count, and it is realised that the article complained of goes a long way beyond the reasonable limits accorded to a Free Press.

J. L. G.

STAR MILLS
ANY QUALITY MILLS
ANY QUALITY

GEO. CHURCH & CO.

LTD.

STAR MILL
THE

WAXED
WATERPROOF
PITCH OILED AND
MANIFOLD PAPERS

1920

1920

COMPLIMENTARY LUNCHEON TO MR. STANLEY COUSINS.

A REPRESENTATIVE GATHERING OF REPRESENTATIVES OF THE PAPER,
PULP, AND ALLIED TRADES.

HANDSOME PRESENTATION ON HIS FIFTIETH BIRTHDAY.



MR. STANLEY COUSINS, one of the most prominent and popular men in the British paper trade, recently achieved a double event by attaining the half-century in age and the quarter-century in his association with the firm of Messrs. Albert E. Reed & Co., Ltd., paper manufacturers, London, of which he is now a director. It was in celebration of these interesting events that he was the guest of honour at a complimentary luncheon held at the Connaught Rooms, Great Queen Street, W.C., on the 8th ult., when a large and representative gathering of gentlemen engaged in the paper, pulp, printing, and publishing trades attended. The arrangements had been carried out by a committee consisting of Sir Howard Spicer, K.B.E., Mr. F. E. R. Becker, Mr. Fred W. Bowater, Mr. A. E. Linforth, and Mr. J. L. Greaves, the last-named gentleman acting as hon. secretary. Under such auspices, it need scarcely be said, the movement for the payment of a fitting tribute to Mr. Cousins quickly made headway, and resulted in what was eventually regarded as one of the most successful gatherings of the kind ever held in connection with the paper and allied trades.

Viscount Burnham, who presided over the gathering, received, with Mr. Cousins, the company, and was subsequently supported at the "high table" by the guest of honour, Lord Riddell, Sir Andrew Caird, Sir Frank Newnes, Bart., and Mr. W. R. Colling (Controller of H.M. Stationery Office), and by Sir T. Vansittart Bowater, Bart., Sir George Sutton, Sir Campbell Stuart, Mr. H. A. Vernet, and Mr. J. S. Elias. Others present, in addition to members of the committee, were:

Adams, E. A. C.
Adamson, W.
Andrews, F. W.
Aylott, .
Baker, Arthur (Empire Paper Mills, Ltd.).
Baker, Chas. (Chas. Baker & Co.).
Barker, Chas.
Barlow, Ed. (Horton Kirby Paper Mills).
Barnes, A. C.
Bates, W.
Bathgate, J. M. (Pearsons, Ltd.).
Beaumont, W. V. (Becker & Co., Ltd.).
Becker, T. O. L. (Becker & Co., Ltd.).
Berner, J. D. (Berner & Nielsen).
Bowater, Major (W. V. Bowater & Sons, Ltd.).
Bradley, H. (Chas. Marsden & Co., Ltd.).
Brees, Arthur.
Brown, A. E. (Jas. Spicer & Sons, Ltd.).
Brown, A. J.
Buchanan, Geo. (Becker & Co., Ltd.).
Carter, W. (Becker & Co., Ltd.).
Cayzer, F. L. (James Spicer & Sons, Ltd.).
Clarke, Desmond.
Corke, W. C. (C. E. Corke & Co.).
Court, A. W. (Becker & Co., Ltd.).
Cousins, John H. (A. E. Reed & Sons, Ltd.).
Cowley, J.
Crookes, J. T.
Dean, A. W.
Diesen, S. (Salvesen & Co.).
Denson, Percy G. (Edward Lloyd, Ltd.).
Dewdney, W. R.

Dixon, Hugh (L. S. Dixon & Co., Ltd.).
Dobson, Fred. W. (Fisher & Co.).
Duxbury, P. (Yates, Duxbury & Co., Ltd.).
Eaton, C. D. (Birmingham).
Edwards, T. J.
Elias, J. S. (Adhams, Ltd.).
Erikson, R. (Robert Erikson & Co.).
Featherstone, H.
Flygt, E. (Palmer & Flygt).
Galpin, Stanley J.
Gillis, F. (*Paper Trade Review*).
Goldney, Thos. (Donside Paper Mills).
Goldstraw, H. (John Dickinson & Co., Ltd.).
Gooding, A. E.
Grant, James (North of Ireland Paper Co., Ltd.).
Green, T. Dudley.
Greenhalgh, Jas. (C. Greenhalgh & Co.).
Greenhalgh, W. M. (C. Greenhalgh & Co.).
Harris, J. H. (Tovil Paper Mills).
Harrison, J.
Helling, C. D.
Hermel, Percy.
Herring, G. H. (Herring, Dewick & Cripps).
Hill, C. L. (A. E. Reed & Co., Ltd.).
Holloway, James.
Hughes, E.
Johns, A. S.
Johansen, Captain.
Kentish, H.
Lait, E. C. (O. Reich & Co.).
Langham, J.
Leander, N. (Robert Erikson & Co.).
Lemon, J. C.
Lendrum, E. S. (Lendrum, Ltd.).
Ling, H.
Lomax, J.
Lowry, F. W. (Becker & Co., Ltd.).
McLund, W. R. (Birmingham).
Mawson, G.
Meers, Walter (Pictorial Newspaper Co., Ltd.).
Moore, Major J. (North of Ireland Paper Co., Ltd.).
Moseley, P.
Newman, F. (J. Dickinson & Co., Ltd.).
Newnes, Sir Frank, Bart.
Newton, H. C.
Newton, J. H.
Nichol, S. (Berner & Nielsen).
Nordberg, Eric.
Nuttall, T. D. (Bentley & Jackson, Ltd.).
Oswick, G. E. (Lendrum, Ltd.).
Palmer, W. H. (Palmer & Flygt).
Parkyn, Frank (Parkyn & Peters).
Perry, Major J.
Pewcock, H. H. (*Morning Post*).
Penman, Victor R. (W. Penman & Sons, Ltd.).
Penman, Wm. (W. Penman & Sons, Ltd.).
Powers, W. C.
Raynham, E. H. (Ed. Lloyd, Ltd.).
Reed, Frank.
Ridgway, E. R. (Associated Newspapers, Ltd.).
Roe, H. H.
Roome, Wallace D. (Pictorial Newspaper Co., Ltd.).
Rowley, John.
Rustad, L. E. (Johnsen, Jorgensen & Wettre, Ltd.).
Vernet, H. H. (late Controller of Paper).
Vickery, F. W.
Watson, G. P.



ENGLISH CHINA CLAYS LTD.

Largest Clay Producers
in the World

500,000 TONS ANNUALLY

EXCEPTIONAL FACILITIES FOR PROMPT DISPATCH. DRYING
KILNS ALONGSIDE RAILWAYS—OWN SIDINGS AND TRUCKS.

DEPÔTS:

RUNCORN, GARSTON, FLEETWOOD, LEITH, BO'NESS, GLASGOW & CHATHAM

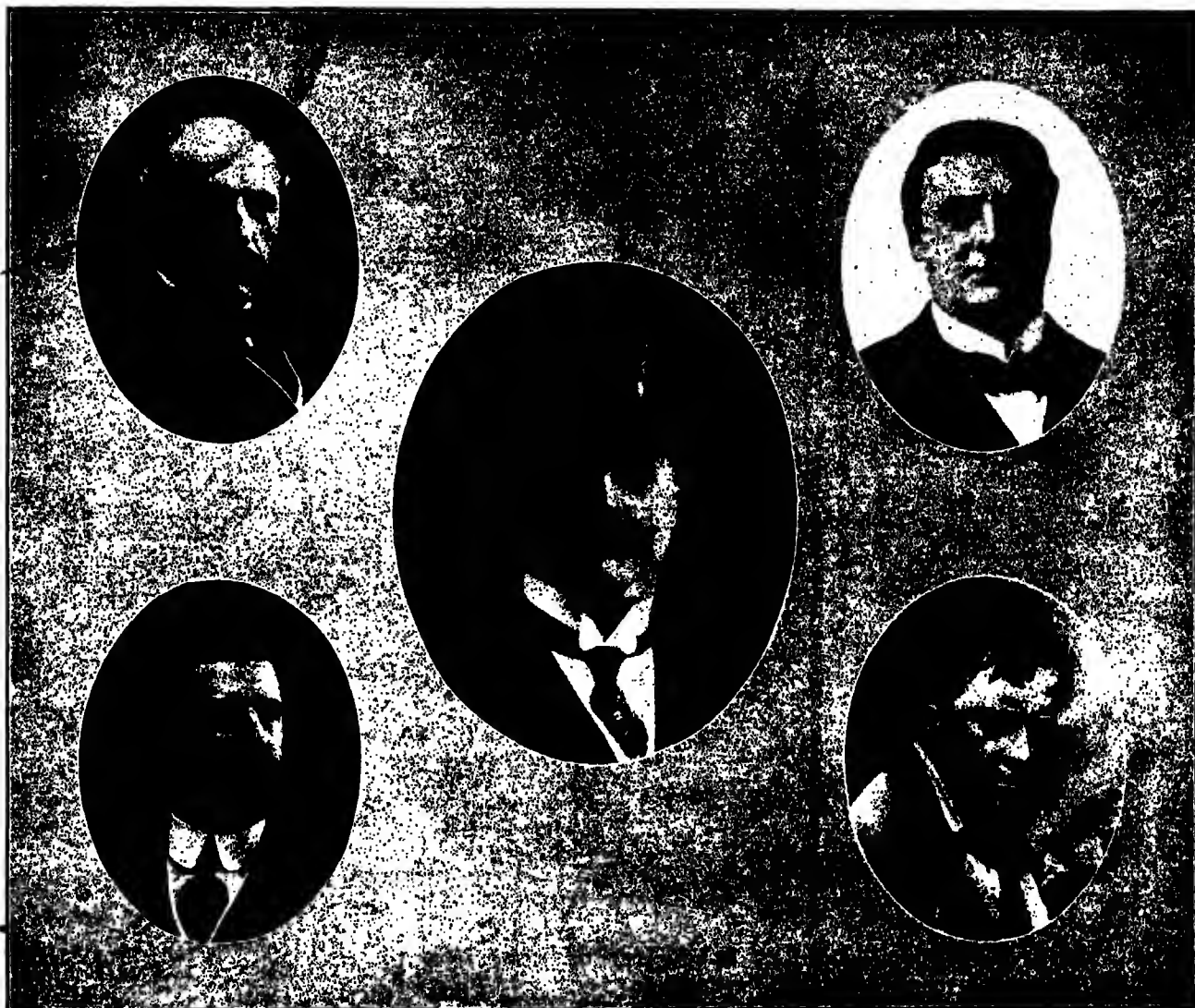
Watson, H. Lynch (A. E. Reed & Co., Ltd.).
 Weldon, F. W.
 White, A. W. (Farncombe).
 Will, Wm. (*The Graphic*).
 Wilmer, F. J.
 Wolstenholme, J. (Chas. Walmsley & Co.).
 Wood, W.
 Young, T. (Cassell & Co., Ltd.).

Following the toast of "The King," the Chairman announced that several messages of regret for non-attend-

LORD BURNHAM ON THE PAPER OUTLOOK.

On rising to propose the toast of "Our Guest," Viscount Burnham commenced by stating that that was a notable occasion, and a notable gathering of a notable trade. It was a big meeting of those engaged in the paper trade, and he would not call them the associated, but the subordinate, industries, because they all lived on paper, while other necessities of life did not matter so much to them.

THE GUEST OF HONOUR AND THE COMMITTEE.



SIR HOWARD SPICER, K.B.E.
 MR. FRED. W. BOWATER.

MR. STANLEY COUSINS.

MR. F. E. R. BECKER.
 MR. E. A. LINFORTH.

ance had been received, and read the following telegram from Mr. Howard Corbett, manager of *The Times*, from Madrid:

"Regret exceedingly that a holiday in Spain happens just when I would like to spend one day in town to congratulate Stanley Cousins on attaining his fiftieth birthday. He will get the sincere congratulations of many good friends, for all in the paper-making industry know of his untiring efforts for the industry during the war period. Consumers of the precious commodity are equally, if not more, grateful, and are glad to realise that we have such a man to help us in these even more critical times. May he live many more happy years."

His Lordship then proceeded to say that those present were met to celebrate the fiftieth birthday of the most popular man in the paper trade—their friend, Mr. Cousins. (Cheers.) He was not quite sure whether the approach to the grand climacteric was an occasion for congratulation, though an American Ambassador had put forward the view that they never knew true happiness until they had attained the age of seventy years. Continuing, the Chairman said that he had a special reason to be glad to have the honour of presiding on that occasion, because he believed it was true that it was from the offices of the *Daily Telegraph* that Mr. Cousins had his first introduction into business life. Some thirty-seven years ago their friend had a letter

PAPER MAKING MACHINERY
of EVERY DESCRIPTION.



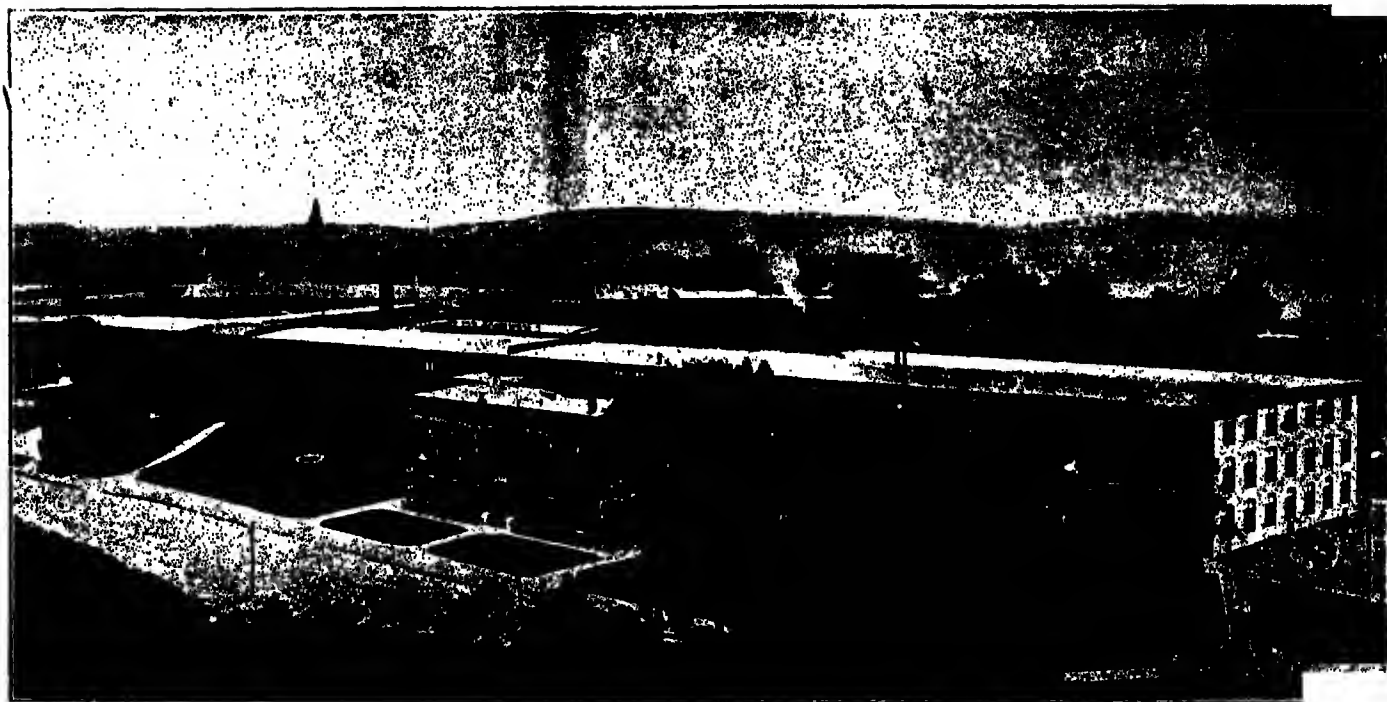
TELEGRAMS:
"MILNE. EDINBURGH."

CODES:
A.B.C. 4TH & 5TH EDITIONS.
MARCONI INTERNATIONAL.

COMPLIMENTARY LUNCHEON TO MR. STANLEY COUSINS.



THE CHAIRMAN AND OTHER NOTABILITIES WHO ATTENDED.
 1, VISCOUNT BURNHAM. 2, LORD RIDDELL. 3, ALD. SIR T. VANSITTART BOWATER, BART. 4, SIR FRANK NEWNES, BART.
 5, SIR GEORGE A. SUTTON, BART. 6, SIR ANDREW CAIRD, K.B.E. 7, MR. J. S. ELIAS. 8, MR. H. G. SPICER. 9, MR. H. A. VERNET.
 10, MR. C. R. SEDDON, J.P. 11, MR. W. H. SALMON. 12, MR. CHAS. L. STEVENS. 13, MR. T. D. NUTTALL, O.B.E. 14, MR. H. E.
 PEACOCK. 15, MR. W. C. POWERS. 16, MR. JOHN WOLSTENHOLME. 17, MR. F. PARKYN.



F. C. HUYCK & SONS

Manufacturers of Woollen

FELTS AND JACKETS

for Paper Machines

ALBANY, N.Y., U.S.A.

Inquiries and orders requested through the following agents,
who will furnish samples, prices and full information :

FOX, STOCKELL & CO., 61, St. Mary Axe, London, E.C.

Agents for United Kingdom, Holland, Belgium, France and Spain.

LORENTZEN & WETTRE, Christiania, Norway.

Agents for Norway, Sweden, Finland, Russia and Denmark.

THE TOYO SHOKWAI, Tokyo, Japan.

Agents for Japan and China.

PARSONS TRADING CO., 17, Battery Place, New York, N.Y.

Agents for South America, Australia and India.

of introduction from Mr. Richard Lloyd, London manager of the *Daily Telegraph* paper mills at that time, which took Mr. Stanley Cousins to the great house of Spicer, and once he started he never looked back. (Loud applause.) Mr. Cousins was now responsible, he believed, for an output of not less than 4,500 tons of paper a week, which meant in turn not less than 6,000 tons of raw material, the very call for which was making the difficulties of some of them so serious at the present moment. Their guest was connected, and had been for many years connected, with many of the most important paper-making firms and companies of the country, Messrs. Albert Reed & Co., Ltd., for instance, and latterly especially with the Imperial Paper Mills. There were many other concerns, of course, which claimed part of his allegiance, and he ventured to think that he had been equally faithful to all of them. (Hear, hear.) They all knew the hearty grasp, the honest gaze, the voice that meant all that it said. (Applause.) It was just the hearty grasp and the honest gaze which had been but the reflex of the honest character, which, in spite of the keenness of trade competition, had made Mr. Stanley Cousins universally respected and universally popular among his colleagues. (Cheers.) Their guest was far from being at the end of his career, for he had many more worlds to conquer. (Hear, hear.) It was a happy thing that they were able to wish him well at this mile post in his life, when he could glance back with satisfaction and look forward with confidence. Mr. Stanley Cousins was pre-eminently a popular man among them—in the paper trade. Whether any paper-maker was really popular outside the paper trade he (the Chairman) had his doubts, because the paper-maker was regarded as being a man who batten on the necessities of the community, and was made responsible here in England for all that was done in other countries, over which we had no control. He had to bear the brunt of all the public displeasure aroused by having to pay more for paper in whatever form it was consumed, whether for intellectual or other purposes. (Laughter.)

Lord Burnham then went on to say that the uses of paper were always increasing, and the trade was necessarily becoming more and more entitled to claim pride of place amongst the staple trades of this country and of the Empire. One heard strange tales of the way in which the publications of this country were used in the Far East, instancing a case on the confines of the Chinese Empire where a hut was papered with past issues of the *Morning Advertiser*. His Lordship then said we were now suffering from what was termed a paper famine, due to what was a real world shortage. He fancied that what was happening now was pregnant with meaning for all of them there who believed that, although they could not perhaps ever be self-sufficient to themselves in the British Empire, still they ought to be able to draw more largely than they had done from the output of the Great Dominions over the seas. (Hear, hear.) In fact, it was difficult to see, with the increasing use of paper for every sort of purpose, how the supply could be made up unless the resources, particularly of Canada, were utilised to far greater power and potency than they were now. They must recollect that even looking at it from the "news" point of view, it was certain that as new areas of the world were brought more and more within the range of knowledge, there would be an increasing demand for "news" which was to be met from the existing supply. Paper was used for many other purposes in a concentrated form, which would increase probably as mechanical appliances and scientific inventions grew, and for that also they had to depend upon the present area of supply. Then for years to come the crippling of Eastern and Middle Europe would undoubtedly cut off what paper-makers might have looked upon as the main reason for cutting down the price. There was not likely to be for many years any effective competition from Germany in the paper

trade, and they knew very well that the mere fact that Italy had had to draw upon the West for its paper, instead of upon Austria, had contributed to the present scarcity and tended to raise the prices to their present level. These things would throw an additional responsibility upon the leaders of the paper-making industry, and it was up to them to do all they could to interest, not only the users of paper on a big scale, but the whole of the commercial community in the development of their resources in what was the prime necessity of civilised life. He was quite certain there was every disposition in this country to do what they could to develop the resources of this country and of the Dominions. (Applause.) A friend of his who was sometimes thought to carry his enthusiasm to the point of eccentricity believed that we could pay off the enormous figures of our debt, not once, but twice over, if only the Empire were prepared, on its common credit, to raise sufficient money to develop the latent resources which were available on every hand in many of the great lines of industrial and commercial life. It would be our duty here soon to set ourselves in downright earnest to developing the paper resources of our Dominions, since for years to come there was likely to be a stringency which would act most prejudicially upon the whole of our national life, and even upon the common life of our community of nations. No newspaper man could look without a great deal of fear to the coming years, which were likely to prove almost too heavy for smaller people to bear, and which might see the end of many publications of undoubted value as contributing to the efficiency and knowledge of the people, and might seriously handicap also free access to information and to knowledge in all its forms that a costly Press and the Press would be costly if paper was costly—was bound to entail. Therefore they welcomed the fact that they had at the head of the industry men of such private enterprise and public spirit as Mr. Stanley Cousins. (Cheers.) He did not like to call him a paper Colossus—(laughter)—but he was quite certain that if a statue was ever put up to him, it would not be made of wood, as was the case with Hindenburg, but of compressed paper. (Laughter and applause.) Although they were not there to suggest the erection of a statue to Mr. Stanley Cousins, they were there to wish him many more years of health and happiness and of public and private usefulness, and to tell him that there was nobody who by the sincerity and integrity of his life had earned more confidence from his fellows than he, and that was why they were there to do him honour that day, and why he (Lord Burnham) was proud to be the spokesman on that occasion. (Cheers.) The Chairman then asked those present to drink to the health of their friend and wish him many happy returns of the day. (Loud cheers.)

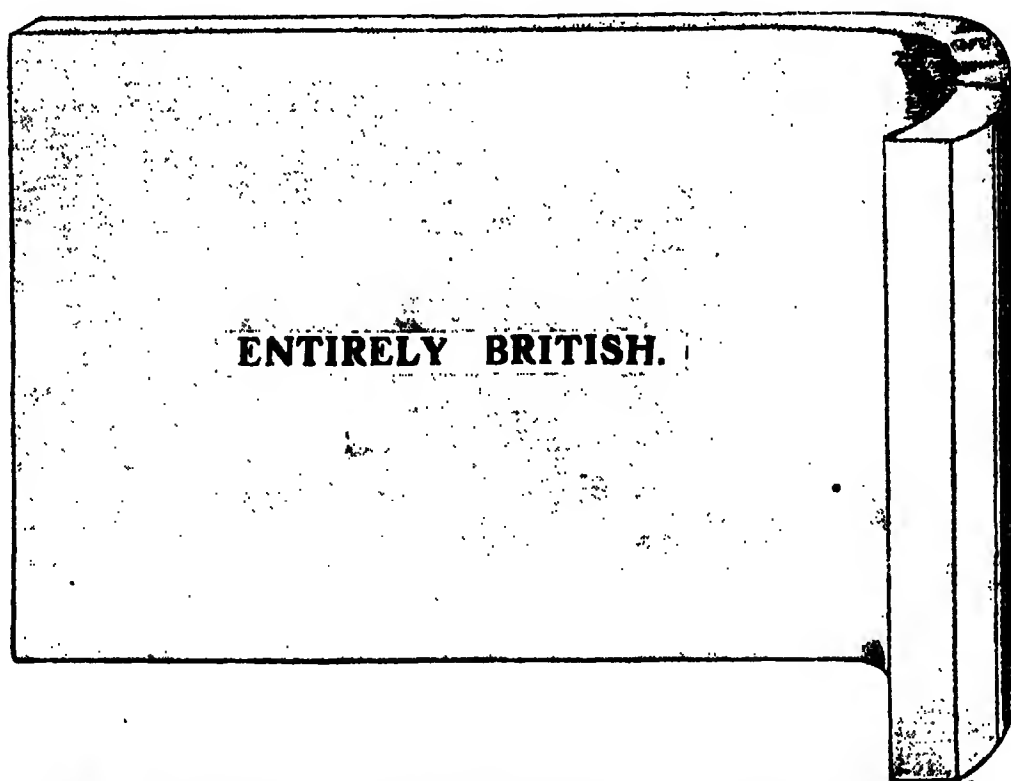
The toast was enthusiastically honoured, "For he's a jolly good fellow" being heartily sung.

PRESENTATION TO MR. STANLEY COUSINS.

The Chairman then handed to Mr. Cousins, on behalf of the subscribers, a handsome silver tea and coffee service as a token of their high esteem. In doing so, Lord Burnham said that the testimonial was the result of the unsolicited admiration of all who wished to contribute towards it, and in not one single case had anything been asked for. An inscription, which had yet to be made, would express their feelings towards Mr. Cousins and his family, and he (the Chairman) hoped their guest would accept it as a small token expressing their goodwill and best wishes. (Cheers.)

On rising to respond, Mr. Stanley Cousins, who was accorded a most cordial reception, said:—My Lords and Gentlemen,—Firstly, let me thank you for your hospitality in entertaining me in this princely fashion. I appreciate the honour shown me by Viscount Burnham presiding at this luncheon, seeing that it is 37 years since I entered the paper trade, as he has already informed you, through the

MITCHELL COUCH RO



The late R. J. C. Mitchell's Patent.

THE LIFE OF THIS JACKET IS UNSURPASSED.

WORKING ON MACHINES NOT ONLY IN THIS COUNTRY.

MITCHELL BROTHERS' BRANCH

of

MITCHELLS, ASHWORTH, STANSFIELD & Co., Ltd.,

HELL'S LL JACKETS

Applied with signal success in the manufacture of
ALL CLASSES OF PAPER and adopted by the
largest Paper Mills throughout the Universe.



Mitchell's Jacket is still "running" and holds all records.

BUT IN ALL PARTS OF THE CONTINENT AND THE WORLD OVER.

ALBERT WORKS, WATERFOOT, Nr. MANCHESTER.

LONDON WAREHOUSE 23 & 24, Old Bailey, E.C.
MANCHESTER WAREHOUSE (Home Trade) .. 45, Newton Street, Manchester.

Telephone :
30 WATERFOOT.

Telegraphic Address :
"MITCHELL'S, WATERFOOT."

THOS. HARDMAN & SONS

LIMITED.

**FERNHILL MILLS,
Bury, LANCASHIRE.**

ESTABLISHED 1836.

London Office : FLEET HOUSE,
17 FARRINGDON AVENUE, E.C.

Telegrams { "Felts, Bury."
 "Unbend, London."

Telephones { No. 41 Bury.
 No. 62 Holborn.

**FELTS FOR
FAST RUNNING
A SPECIALITY.**

ALSO MAKERS OF
EVERY DESCRIPTION OF
:: CLOTHS ::
Used for Machinery Purposes.

**COUCH ROLL COVERS,
SECOND PRESS FELTS,
WET AND DRY FELTS,
BAG FLANNELS, &c., &c.**

BLANKETS, LAPPINGS, &c., :: FOR PAPER STAINERS, ::
PRINTERS AND LITHOGRAPHERS.

aid of the powerful journal which his Lordship so ably controls. But my connection with Fleet Street goes back to 1834, as in that year my grandfather was made a partner in the firm of banknote engravers, Perkins, Bacon & Petch, so you will see I am fully qualified for "Paper Land." Since the time the Hon. Secretary mooted the idea of a small luncheon party on April 8th, I have had the misfortune to lose my esteemed co-director, Mr. Albert E.



MR. PERCY DUXBURY.

Reed, otherwise I know others would have been here to-day. It is 25 years since I joined him, and during that period we had a most pleasant business relationship. He has passed away, and left an honoured name behind him, and except for his death my other two colleagues, his sons, would have been present to-day, but I know they are in spirit. (Hear, hear.) Before passing on to the more serious part of my reply, I should like to thank the Hon. Secretary and also the Committee, all

of whom are friends of very long standing, for the excellent arrangements they have made for us all to-day.

And now, sir, if you will allow me a few minutes I should like to refer to the question which is uppermost in all our thoughts, *i.e.*, the future of the great industry which most of us in this room represent, in some shape or other, and one which affects nearly every being in the land. Pre-war we consumed and exported from this country 33,000 tons of paper and boards weekly, of which two-thirds were manufactured in this country, the remaining tonnage being imported from Scandinavia, Germany, Holland, Belgium, Austria, and our Colonies, and it was largely because paper was dumped here by Germany, which kept prices down so low, that most British makers had not the heart to go ahead with new enterprises. Could you blame them under the circumstances? ("No!") This low price of paper meant very low prices for raw materials, and I, personally, do not consider that pre-war most of the pulp manufacturers received a satisfactory price for their products. Especially do I refer to the mechanical wood pulp makers.

Owing to the war, little or nothing being done during that period in the pulp and paper industry, we now come up against a world shortage, which is likely to last for some time, because, as far as I can see, as quickly as pulp mills are put down, or should be, the world demand for paper will be increased. Consequently, unless we go ahead with pulp propositions speedily the price is bound to keep up, and I may say even go higher, but I hope not. Take to-day, for instance. The present quotations average just seven times pre-war prices for pulps alone (an advance of 600 per cent.), leaving out the question of all other extra costs in the manufacture of paper, such as coal, wages, transport, etc., in fact, everything we use. Personally, I cannot agree that this 700 per cent. is justified. But, of course, whilst the demand exceeds the supply there is no telling to what height it will go. But if suppliers of raw material would be satisfied with a very handsome and

substantial profit per ton they could put their goods in at anything between four to four-and-a-half times pre-war prices, and which would then save this industry on raw materials alone, exclusive of that supplied by our Colonies, a sum of nearly £12,000,000 per annum, taking 1913 year as a basic year for imports, which is a very fair sample. Do we realise what this means when capitalised? It approaches £230,000,000, and this is the difference that is represented by a fair price and present-day quotations, and that is the amount this means when we come to present-day prices, but what the price of paper will be then I tremble to think. Yet I do not believe it will touch the present foreign paper prices, which to-day exceed the British prices by £16 to £20 per ton. Surely we cannot, and I question if the Government will allow this state of things to continue. We must find further markets for raw material, and so reduce the price, which extra supplies can alone do, as supply and demand rule nearly every market.

There is plenty of room for all suppliers of raw material, but healthy competition will bring back prices to pre-war normal. In addition to our present importation of pulps, amounting to about 720,000 tons dry weight per annum, our Colonies can supply us with a further 150 to 200,000 tons, and it only requires enterprise to accomplish this at comparatively small cost, and which will give a good yield for the investment. These high prices are bad for all paper consumers, and still worse for the country in general, because, as I have before pointed out, we shall arrive at a time when we shall be paying out annually the enormous sums previously mentioned if high prices are maintained, and which extra production of raw material alone can reduce considerably. It is in the paper manufacturers' interest to supply paper at low prices because it is output we look for, but it is impossible for them to assist consumers with low prices when the raw materials are sky-high, as at present. Paper manufacturers alone cannot grapple with this raw material question: it is for us, one and all, to do so by every means in our power. Gentlemen, allow me to express to you again my thanks. (Applause.)

LORD RIDDELL'S SUGGESTION.

In proposing the toast of "The Chairman," Lord Riddell, whose witty speech was punctuated with the laughter of his hearers, said that he had proposed the health of Lord Burnham as a man, as a newspaper proprietor, and now as Chairman. His Lordship was also a paper-maker, and he (Lord Riddell) need hardly say that was a most satisfactory position for any man to occupy nowadays. (Laughter.) Observing that both Lord Burnham and Mr. Stanley Cousins had a genial disposition, he said there were some people who were able to perform unpleasant tasks in a most pleasant way, and the Chairman and their guest were two of the mildest-mannered men who cut throats. (Loud laughter.) He (the speaker) was one of the victims of



Photo.]

[The Studio.]

MR. W. C. CORKE, C.C.

BRITISH DYESTUFFS CORPORATION LIMITED.

Manufacturers of

ACID COLOURS
BASIC COLOURS
CHROME COLOURS
DIRECT COTTON COLOURS
OIL COLOURS
SPIRIT COLOURS
SULPHUR COLOURS
UNION COLOURS
VAT COLOURS

For all purposes

Works :

ELLESMERE PORT - HUDDERSFIELD, MANCHESTER

both. In this connection the speaker recalled a contract for a few thousand tons of "news" paper he made with Lord Burnham some years ago at 1d., less 1½ per cent. At that time Lord Burnham said he had not sold paper before, and although he did not renew the contract, there was no *arrière pensée*. (Laughter.) As to their guest, Lord Riddell said no one could be cross with a man who looked like Mr. Cousins. (Laughter.) When he rang up on the telephone and said, "I am sorry, old man, but the price of paper is going up to 5½d. per lb.," he said it in such a nice way that one almost felt it was a favour. (Loud laughter.) And when he added, "I thought I would like to let you know before anybody else," of course, one felt that one was a special friend of Mr. Cousins. (renewed laughter) and that, although one, in common with others, would have to pay 5½d., it was an intimation of friendship which should be treasured. (More laughter.) But notwithstanding that the price of "news" was 5½d. per lb. they all loved their friend, Mr. Stanley Cousins. (Applause.) During the war it was his (Lord Riddell's) privilege to meet him for the purpose of conferring upon matters of joint interest, and during those gloomy days he never saw Mr. Cousins without coming away cheered. (Hear, hear.) Good brains were a great thing in life, but a pleasant personality was perhaps one of the greatest privileges which could be conferred upon a man. Reverting to the price of "news," Lord Riddell said the figure of 5½d. a lb. aroused a good deal of apprehension, especially among the consumers. He wondered whether he knew anything about the newspaper business, whether he was buying paper badly or his competitors were buying it very well. He would say this - that there were very few papers with a large circulation at the present time which were carrying on business at a profit. That was to say, if they debited paper at 5½d. a lb., which was the current price. It was a very serious matter. He sometimes wondered whether the accounts were made up on that basis and whether they should give the public the benefit of the stocks which they bought at comparatively moderate prices. He believed that this shortage of paper would last for some considerable period, and the stocks which they were now selling to the public at the cheap price would have to be replaced, and they would find that a serious day of reckoning was coming. Therefore, it behoved the paper trade after all it was a public necessity carefully to consider its position. He was interested in what Mr. Cousins had said with regard to raw materials, and he (Lord Riddell) thought the time had come when it was necessary for the users of paper to enter into conference with the paper-making trade for the purpose of considering this question of raw materials. If the price of paper was going to rise beyond the figure of 5½d. per lb. it was obvious that something would have to be done and he (Lord Riddell) respectfully suggested to Lord Burnham and the other leaders of their trade that they should all meet together and consider that matter. The question was whether they were not going forward blindly and whether before many months were over they would be faced with such a serious position that they would wish that they had dealt with the matter before. He believed they had in that room all the paper magnates and all the brains of the paper and pulp trade, and he ventured to place that suggestion before them. Concluding, Lord Riddell described Lord Burnham as one of the assets of the newspaper trade, who was at the head of every good work that went forward in their trade, and they were indebted to him for presiding on that occasion.

The toast having been honoured with great cordiality, Viscount Burnham expressed his thanks for the company's courtesy and appreciation, and stated that he hoped the suggestions made, both by Mr. Stanley Cousins and by Lord Riddell, might be carried into effect, and that some serious steps might be taken by all those who were interested

as manufacturers or as merchants or as consumers to see what ought to be done—although he did not entertain the extreme fears of his friend Lord Riddell—in order that they might meet the present difficulties in the only way that could be done; that was by increasing the supply and realising that economic laws were justified in the long run, and that there was no way of getting round them. (Applause.)

The proceedings then terminated.

Among other letters and telegrams received conveying regrets for non-attendance were those from Mr. Henry Godfrey, Mr. Fred W. Dobson, and Mr. Coker Iliffe.

Acknowledgment is due to the following firms for the use of portraits taken by them and reproduced in connection with the foregoing report of the complimentary luncheon to Mr. Stanley Cousins: J. H. Coath & Son (Mr. F. Parkyn), De'Ath & Dunk (Mr. C. L. Stevens), Elliott & Fry (Mr. Stanley Cousins), Gessford, New York (Sir Andrew Caird), Oscar Hadden (Mr. F. W. Bowater), Lafayette (Lord Riddell), Langfeir (Sir Howard Spicer), Miles & Kaye (Mr. W. H. Salmon), Ernest H. Mills (H. E. Peacock), Speaight (H. G. Spicer), The Studio (Mr. W. C. Corke, C.C.), C. Vandyk, Ltd. (Sir Frank Newnes, Bart. and Mr. C. R. Seddon, J.P.), and Arthur Weston (Mr. T. D. Nuttall).

THE DEMAND FOR PAPER IN ITALY.

We are officially informed that a communication has been received in the Department of Overseas Trade under date February 24 from the Commercial Counsellor to H.M. Embassy at Rome (Sir Edward Capel Cure) relative to the paper trade in Italy, the substance of which is as follows:—

"There is a general shortage of paper of all kinds in Italy at the present time, and local mills are unable to cope with the great demand existing mainly owing to scarcity of raw materials and labour troubles. Prices are continuously rising, and German manufacturers of both raw materials and paper are endeavouring to regain a hold on this market, their efforts being assisted by the present rate of exchange. A consignment of German parchment paper recently imported is being offered at 400/500 lire per 100 kilos. Carbon papers exclusively of French origin are being imported, the cost at the present time being from 600/800 liras per 100 kilos. A list is appended of various classes of paper and cardboard which are greatly in demand at the moment, together with statistics showing the importation of paper, etc., into Italy for the year 1913 and for the first ten months of 1919." [Note.—80 lire (approx.) £1 at the present rate of exchange.]

The Commercial Counsellor has forwarded samples of various classes of paper and cardboard, together with the current wholesale prices, which may be seen on application to Mr. Webster Jones, Room 41, Department of Overseas Trade, 35, Old Queen Street, S.W.1, up till May 7, after which date they will be available for loan to provincial firms unable to inspect them in London.

The paper and cardboard chiefly in demand comprises: Notepaper in rolls or flat of all qualities, plain and ruled, including white paper for notebooks, plain and lined; typewriting paper of all qualities; carbon paper; printing paper; packing paper, white and in all colours; wall paper; bill poster paper in colours; fancy paper; parchment paper; various kinds, emery, drawing, and crystal; paper pulp; wood pulp (dry and wet); cellulose (sulphite and sodium).

Obituary.

THE LATE SIR JOHN THOMAS.

ANOTHER veteran of the paper-making industry of this country passed away on the 15th ult., at Brook House, Woolburn, Bucks, in the person of Sir John Thomas, J.P., at the age of 85 years, pneumonia being the cause of death after a very short illness. The deceased knight was born at Shoreham, Kent, on June 23rd, 1834, and may be said to have been reared in paper-making traditions, for his father, grandfather, and great-grandfather were all associated with the paper trade. Each of the first two was for some years manager at the Shoreham Paper Mills, of which the proprietor was Mr. George Wilmot, and it was here that young Thomas was apprenticed to the trade. On his father starting the Soho Paper Mills, Woolburn, in partnership with Mr. J. Barcham Green, of Hayle Mills, Maidstone, and Mr. J. C. Stevens, the deceased gentleman worked there until 1874, when on the death of his father he succeeded him in the partnership. Seven years later this was dissolved and the firm was reorganised under the style and title of J. & E. Thomas and Green, with Mr. John and Mr. Edwin Thomas and Mr. Roland Green, son of Mr. J. Barcham Green, as members. Later on, on the retirement of Mr. Edwin Thomas, the business was registered as a limited liability company as Thomas and Green, Limited, whose high repute as makers of many kinds of high-class paper is widely acknowledged. Until his death Sir John Thomas occupied the position of chairman of the company, though advancing years latterly compelled him to take little part in its active management. Sir John was also interested in Jackson's Paper and Mill Board Co., at Bourne End, of which he was chairman, and Temple Mills, near Marlow, belonging to Messrs. Thomas Bros. For many years Sir John Thomas took a great interest in the affairs of the Paper-Makers' Association and was for some time a member of the Southern Committee and of the Council.

The late Sir John Thomas entered into matrimony three times and is survived by his third wife, whom he married in 1916.

In public affairs Sir John took an active part. He was a Justice of the Peace for the County of Bucks and after being elected in 1898 as County Councillor became a County Alderman. Politically he was an ardent Liberal and as such contested the constituency of South Bucks, but unsuccessfully. It was in the year 1907 that he received a knighthood and the announcement of that distinction was received with great enthusiasm at Woolburn, while the employees of his firm presented him with an illuminated address. His 80th birthday was also the occasion of a popular celebration at High Wycombe, South Bucks, the Liberal parties presenting him with an address. The late Sir John Thomas provided a site for an art gallery and museum at Wycombe, and one of his last acts was to sign a gift of £3,000 to the Corporation for its erection. For many years he was very prominently associated with the Congregational Church and Sunday-School Union, and as a life-long abstainer was a strong advocate of temperance principles. In this connection it may be mentioned that a year or two ago he declared that he was born by a waterfall, rocked in a publican's cradle, and had signed the pledge 78 years previously in a disused malt house.

The interment took place at the Cores End Congregational Church, following a short service at Brook House. The chief mourners were: -Lady Thomas, Miss Thomas, Miss George, Mrs. J. Dixon, Mrs. May, Mr. Edwin Thomas (brother), Mr. and Mrs. Felix J. Thomas, Mr. H. G. Thomas, Mr. T. C. Thomas, Mr. W. J. Thomas, Mr. T. F. Thomas,

Mr. Cattle, Mr. Stimson, Mr. H. Peel, Mr. A. J. Clarke, Dr. J. Dunbar Dickson, J.P., Mr. A. B. Russell, Mr. H. Macquire, Mr. T. Meek, Mr. Roland Green, Mr. W. A. Kershaw, Mr. Bernard Green, Mr. McEwan, Mr. Huchsons, Mr. H. Jackson, Mr. J. Jackson, Mr. F. Butterfield, and Mr. G. F. Rose, followed by the delegates from Soho and Messrs. Jackson's Mills.

Among others present were the Mayor and other members of the Corporation, representatives of the Lord Lieutenant and Lord Anslow, and many other members of the religious, social, and public organisations with which the late Sir John Thomas was associated. All classes of the population evidently realised that they had lost a public benefactor and a kind and considerate friend.

THE LATE MR. AUGUSTIN SPICER.

It is with deep regret that we record the death, on the 21st ult., at his residence, "Franklyn," Haywards Heath, of Mr. Augustin Spicer, the chairman of the famous firm of Messrs. Spicer Bros., Ltd., of which his father, Mr. William Revell Spicer was one of the founders. The late Mr. Augustin Spicer was born on September 7th, 1845, and was educated at Mill Hill School, where he became a pupil in 1858. His business career commenced in Mincing Lane in the tea trade, but in 1870, he proceeded to New Bridge Street, and became a partner in the firm of Messrs. Spicer Bros. When the business was turned into a limited liability company, in 1889, the late Mr. Spicer was managing director, which post he held until the death of Mr. Edward Spicer in 1912, when he became chairman of the company. So far as the paper-making industry is concerned, Mr. Spicer was principally interested in the hand-made paper mills of the Company at Alton, now transferred to Eynsford. He was Justice of the Peace for the Dartford Division, took a great interest in Cottage Hospital work, and was also connected with various societies in the Congregational Church. The late Mr. Spicer was a great favourite with the staff of the company, and all who had to do with him feel that they have lost a very good friend. He leaves a widow and two daughters, the elder one being married to Mr. Gwynne Witherington, of Samuel Kidd & Co., Ltd., of Mark Lane and Isleworth. Mr. Spicer laid the cornerstone of the new offices of the Company, "Blackfriars House," on July 20th, 1914, and was present when the last pile for the foundations was drawn on January 7th, 1916, but has not lived to see the building, of which he was proud, completed.

THE LATE MRS. W. J. WHYTE.

THE numerous friends of Mr. Wm. J. Whyte, a director of Messrs. Edward Lloyd, Ltd., will deeply sympathise with him in the loss he has sustained by the sudden death, from heart failure, of his wife at her home, "Killara," Rodway Road, Bromley, on the 25th ult. Mrs. Whyte was 62 years of age and was a native of Glasgow. Married to Mr. W. J. Whyte 34 years ago, she soon afterwards went to Australia with her husband and remained there for eleven years. Since returning to this country Mr. and Mrs. Whyte have frequently re-visited Australia, where they made many friends. Three sons were born to Mr. and Mrs. Whyte, the eldest being Mr. Wm. Whyte, who is engaged in the paper trade; Dr. Henderson Whyte, and Mr. Ernest Whyte, the last named being killed in the North Sea in December, 1916, while serving with the R.N.A.S. The funeral service took place on the 28th ult. at Trinity Presbyterian Church, Bromley.

THE LATE MR. ARTHUR SMALLEY.

We deeply regret to record the death of Mr. Arthur Smalley, a director of the firm of Messrs. E. Butterworth and Co., of Manchester, which occurred unexpectedly on the 17th ult., during a voyage to New York on board the S.S. *Kaiserin Auguste Victoria*. The deceased gentleman, who was accompanied by his wife, and was 68 years of age, was making his forty-second trip to America, in order to complete business arrangements in connection with the new regime of the firm. He was noted as a good sailor, so that, notwithstanding the fact that he suffered from heart trouble, there was no reason to anticipate any risk during the sea trip, despite his advanced age.

The deceased gentleman was highly esteemed by all who knew him for his kindly disposition and social qualities, so that his death, on the eve of retiring from active business, came as a great shock to his family, fellow directors, members of the firm, and trade friends generally. Besides a widow, the deceased leaves three sons (two in the medical profession, and one a director in the firm) to mourn his loss. We understand that the remains are being brought back to England for interment.

THE CRISIS IN THE PAPER TRADE.

HIGH PRICES AND SHORTAGE OF SUPPLIES.

ANXIETY is deepening among large and small consumers of paper as to their future supplies of a commodity so essential to their existence, and one evening newspaper expresses the view that the crisis is so grave that the trade may call for Government action, and that steps may have to be taken to reintroduce control.

In discussing the possibility of official action, a prominent consumer in the trade is reported to have said that he was not concerned at the moment with large newspaper houses, who no doubt "could ride out of the storm," but he thought that the facts of this economic position were too grim even for the directors of these large concerns. In his view the position is critical, not only in France, America, and Canada, but here.

"Careful buying and the long view might be considerations in policy if the shortage of paper and the high cost of material were likely to be temporary; but the outlook is black indeed. Nothing short of disaster faces the consumer, be he large or small," he stated.

"It is not only that there is a world shortage of paper. Pulp and paper-making material have reached famine prices, and there is no doubt that competition has induced the profiteer and the trust magnate to take advantage of the situation. The war and war measures prepared the way. New sources of supply are suggested. But the crisis is here. It is not now a matter of mere outlook, of waiting for trees to grow and multiply. Those fortunate concerns which own their mills or which have bought well are affected in degree just as much as smaller business concerns. They are perfectly entitled to run their businesses as they think fit. But, in my opinion, it would be a great national calamity if, as seems likely, smaller provincial papers, and, indeed, quite important papers throughout the country, were crippled or ruined by the circumstances of world shortage, a shortage accentuated by the demands of labour and reduced output in all countries, which is profiteering in the worst form. The mills, no less than the printing establishments, are suffering acutely from the unceasing demands of the workers. The latter are evidently unaware, or unmindful, of the gravity of the situation, and it seems likely unless some bold step is speedily taken, that they will only learn in the bitter experience of unemployment. Papers will be up in price, down in size, and, to put it bluntly, down and out, for the economic situa-

tion, real or artificial, cannot now be entirely met by increasing the price of publications.

"In France steps have been taken to have newspaper sizes regulated by official enactment." Much as official interference in private enterprise is to be deprecated, such a step would bring relief. It would automatically restore market values and do much towards saving a situation more critical than is generally realised."

Writing in *The Observer*, Sir L. Chiozza Money stated:—

"In all countries the shortage of paper is now seriously affecting the publishing trades. In America there have been drastic reductions made in the size of newspapers. In Italy, the dailies have had to come out as a single sheet to meet the situation. Even in Norway (from which in 1913 we imported 364,000 tons of wood pulp and 112,000 tons of paper) is now so short of material that a conference on the subject has called for the limitation of publishing to really important books and the putting down of official publications and commercial catalogues. If the present conditions continue—ordinary 'news' paper is now nearly 1d. per lb. British newspapers will have to increase their price or decrease their size, or do both things. The outlook for the future is not very promising. Even when the disorganisation due to the war is remedied the world will have to face a situation in which the spread of education will call for an enormously increased amount of reading matter, even while the world's forests rapidly contract. This is only one illustration of the general case of lack of conservation of world resources to which I have before directed attention. Civilisation will have to pay heavily for its folly if concerted action is not taken to renew organic supplies and to conserve most carefully all inorganic supplies."

"Just before the war the Chief of the American Forest Service estimated that American timber would be exhausted in about thirty years. Some sorts of timber, indeed, are already scarce in the United States, which once possessed what were, perhaps, the greatest forests of the world. Nearly everywhere there has been wanton waste of timber. Great forest areas have been denuded as though the supply of trees could be regarded as inexhaustible. A single month's use of paper in the world means the destruction of a considerable forest. In few countries has afforestation been carefully studied or any attempt made to conserve supplies. This is only one of many cognate matters which ought to be dealt with at large by a League of Nations acting as a preserver of the materials of civilisation. The world can leave as much timber as it can reasonably require, but only by taking thought. As far as we ourselves are concerned, we have millions of acres suitable for afforestation, and although the crop is long a-growing, it is our plain duty to care for posterity by planting now."

An Exchange telegram from Berlin states:

"The *Handelstidning*, of Stockholm, reports a boom in the paper pulp trade, as the result of the heavy demand and high prices. Under present conditions Sweden could sell more pulp than she is producing. Of wet mechanical pulp the Swedish mills have sold to home paper mills 600,000 tons since last July.

"Neither Canada nor Finland is likely to be able to meet the English demand. America, where there is a great shortage, will absorb Canada's production, and Finland will have a surplus for export of not more than 10,000 to 12,000 tons of wet pulp and 15,000 to 20,000 tons of dry. The present price for wet mechanical pulp, f.o.b. west coast, is about 300 to 325 crowns (nominally, £16 17s. to £18 6s.) per ton, and for dry pulp about 600 crowns (£33 15s.).

"The fact that the stock of paper on hand in the United States at the beginning of this year was lower than at any time in the last ten years is a guarantee (says the *Handelstidning*) of prosperity for the pulp and cellulose industries."

LENDRUM

LIMITED

**Paper Agents
and Merchants**

HOME & EXPORT

**3 & 4 St. Paul's Churchyard
LONDON, E.C.4**

Telegrams: "Instalment" Cent. London.
" Foreign -- "Instalment" London.

Telephone:
Central 7101 & 7102.

MANCHESTER
15 Quay Street

Telephone: 818 Central, Manchester.
Telegrams: "Lenquay," Manchester.

GLASGOW
16 Falfield Street

Telephone: 1969 South, Glasgow.
Telegrams: "Lendrum," Glasgow.

Branch Offices:
MELBOURNE
YOKOHAMA

Agencies at:
Calcutta, Bombay, Madras,
Hong Kong, Shanghai,
New York.

A TOUR TO NORWAY AND SWEDEN.

By HAROLD G. PHILLIPS.

(Continued from April number of THE PAPER-MAKER.)

I HAVE already indicated that during my stay in Norway I was successful in obtaining the views of a number of gentlemen prominently engaged in the pulp and paper industry. Among these was Mr. E. Ramm Elefsen, the indefatigable sales manager of Norsk Træmassekompani A/S., who, after greeting me very heartily, plunged into trade topics. He certainly did not give me a very rosy account of the conditions prevailing in the pulp industry, and expressed the opinion that there would be no material change during the next two or three years. I gathered from various conversations that during the war Norwegian forests had been greatly depleted and that labour difficulties had increased rapidly and persistently, gaining the impression that labour troubles were much more acute in Norway than in any other Scandinavian country.

It was with some astonishment I discovered by practical experience that the cost of living in Norway had considerably increased during the last twelve months. Notwithstanding, it was apparent to me that people generally seemed to be spending paper money very lavishly. The rate of exchange at that time was considerably against Norway, being somewhere in the neighbourhood of 22 krs. to the £ instead of the normal 18 krs. This, I was told, was accounted for by Norway's heavy importation of all classes of goods and foodstuffs. What the kronor would be worth in this country to-day if it were not for Norwegian shipping, I would not care to say.

Having completed my programme in Norway, I next journeyed to Sweden, leaving Christiania by the night train for Stockholm, where I arrived the following morning, making my headquarters at the Grand Hotel.

My first call was upon Mr. Axel Wallenberg, the able managing director of Wifsta Warfs A.B., one of the most important sulphite and sulphate concerns in the country. Mr. Wallenberg gave me a very kind welcome and in the course of conversation stated that business was exceptionally good, the firm having booked orders for chemical pulp for a considerable time ahead. Mr. Wallenberg expressed the opinion that there was no likelihood of prices being reduced yet awhile, and I need scarcely say that his view was generally confirmed before I got very much further. As a matter of fact, in the course of the day I was informed that pulp prices were advancing by leaps and bounds. Some quotations given me at that time (March 26th) were as follows: Bleached sulphite, krs. 1,300 to krs. 1,500; easy bleaching sulphite, krs. 800 to krs. 1,200; strong sulphite, krs. 800 to krs. 850; easy bleaching sulphate, krs. 800; strong sulphate, krs. 650 to krs. 700 all f.o.b. I found that only small parcels of mechanical pulp were to be obtained for prompt delivery, and that the prices prevailing were krs. 350 f.o.b. for moist, while dry was quoted at anything between krs. 700 and krs. 750. I ought to mention that all kinds of sulphate were very scarce and the quotations I have given were for prompt delivery in 1921.

While in Stockholm I met many of my father's old friends and, asking their opinion of the situation in the pulp industry, they were all agreed that the market would be firm for some considerable time to come and that prices would continue to rise.

Some comment was made by a few of my friends on the serious inroads which during the last few years, and still, were being made upon the national forest resources. Not only was the demand for wood pulp very much greater, but owing to the coal shortage the timber of the forest

was being used extensively for fuel, especially for the purposes of the railways, coasting steamers, etc. While I was in Sweden, indeed, I could not fail to observe that the coal question was a very serious one, so much so that I was told that the accommodation on express trains was being greatly limited owing to the necessity of reducing the number of coaches. It was remarked too that it would in all probability be necessary to increase the railway freights as the State railways had been working for a considerable time at a heavy loss.

As far as Stockholm was concerned, the cost of living was even considerably higher than in Christiania, and I should imagine that Stockholm is to-day one of the most expensive cities in Europe. There is an abundance of food, but prices are terribly high.

On the question of liquid refreshments it may interest readers of THE PAPER MAKER who find it necessary to visit Sweden occasionally to learn that whisky and other spirits are controlled by what is called the Liquor Control, and it is only possible, unless one is in the know, to obtain a whisky and soda after having had a meal. In ordinary circumstances when one desires a beverage he is obliged to produce his account for the meal. It may be some consolation to know, however, that real Scotch whisky of the good old pre-war quality is obtainable. I might also give a hint that it is sometimes advisable if one is a stranger to keep a watchful eye on the waiters who occasionally quietly pocket the bill, there being quite a little traffic in luncheon and dinner bills. Some trouble may, however, be avoided if visitors to Sweden, on arriving in Stockholm, will call at the office of the Liquor Control, where, on producing their passports and stating how long they intend to stay in Sweden, they will be granted a ration card which will entitle them to three litres per month a quantity which would seem to imply that no one wants more than three litres per month if they are in Sweden on business!

While in Stockholm I had the pleasure of meeting Dr. Jahn, of Svenska Pappersbruk Föreningen, who gave me a very cordial welcome and expressed his deep regret that owing to the number of meetings, which were taking place just then, he was unable to give me very much time. In the course of conversation, however, upon the situation in the pulp and paper industries, Dr. Jahn expressed similar opinions to those I had already heard.

After making a number of calls upon representatives of the pulp, paper and engineering industries in Stockholm by the way, in Scandinavia paper mill engineers, I was told, are full up with orders for all kinds of paper mill machinery and equipment, especially for Finland. I made my way to Gothenburg by the night train. I arrived at that important port early the next morning, fixing myself up at the Grand Hotel, Haglund. My first call was upon Mr. Kjellström, the able managing director of Ekman and Co., and after a cordial exchange of compliments Mr. Kjellström discussed the pulp situation, stating that the shortage was gradually becoming more serious. He gave me the impression that British paper-makers were in the market for deliveries of pulp for 1921, and said that they were willing to cancel their existing contracts and to make increased contracts for 1920 and 1921 at average prices. This was a development of which I had not previously heard, and I do not think that it was the general experience in Sweden.

Mr. Kjellström also observed that his firm had recently made large contracts with Italy, which country had been obliged to enter the Scandinavian market on account of the inability of Germany to supply wood pulp as in normal times. This, he pointed out, was one of the causes of the scarcity of wood pulp and the great increase in prices.

Among other well-known firms in the wood pulp trade with whom I came into contact were Consul Kjellberg

and Mr. C. R. Saabye-Christiansen, of Messrs. Kjellberg and Sons, both of whom greeted me very heartily. I cannot say, however, that I left them in any easier frame of mind regarding the prospects of the wood pulp situation, as from what I could gather, it appeared that wood pulp would soon be at famine prices. Nevertheless, I do not think that British paper-makers will yet be under the necessity of visiting a museum if they wish to see a specimen of wood pulp!

I also had the pleasure of chatting with Mr. Oscar Linstedt, of Göta Sulfat Aktiebolag, and was glad to see that he was in a much happier state of mind than when we met last year. He informed me that the mill was packed right up with orders, and when I suggestively mentioned that sulphite prices were somewhere in the neighbourhood of 1,300 kronors he smiled and said, "Ah well, I think that before you return to England you will find that prices will have considerably increased and there they will remain for some time." This prophecy I found was quickly fulfilled, for before I left Sweden prices had jumped to 1,500 kronors f.o.b., for chemical pulp.

With regard to the labour situation in Sweden, I obtained the impression that it was somewhat better than in Norway, but it was not altogether satisfactory. Indeed, there seemed to be an idea that the workers were lying low and waiting for a favourable opportunity of making further demands for increased wages. As a matter of fact I do not think that Sweden is yet by any means out of her troubles in this respect.

I must not forget to mention that while in Gothenburg I met a very interesting gentleman from Japan in the person of Mr. S. Yoshimura, of Messrs. Shima and Co., Ltd., of Osaka. He told me that his object in visiting Scandinavia was to obtain supplies of wood pulp for the paper mills of his company in Japan. He had only arrived in Gothenburg a few hours before I met him and it was a pleasure to have a chat with so genial a personality. Discussing the prospects of achieving the object of his journey, Mr. Yoshimura was not very sanguine, but I was able to give him one or two introductions, which I believe were of service to him. He incidentally informed me that he was going over to Stockholm and then intended to return via Copenhagen to London, where he would remain for several months.

BRITISH PRESS REPRESENTATIVES' VISIT TO FINLAND.

MR. H. REEVE ANGEL, of Messrs. H. Reeve Angel and Co., 9, Bridewell Place, E.C.4, is organising a visit to Finland by British representatives of the Press on behalf of the Finnish Papermakers' Association, of which Col. Serlachius is President. The object of the tour is an inspection of a number of important pulp and paper mills in Finland. The party will leave this country on May 29th, returning about three weeks later.

Mr. A. L. Panton, for many years manager of Messrs. Hille & Sankey's paper department, has become a partner in the business conducted by Mr. T. V. Olsen, papermakers' agent, of Lambert House, 10-12, Ludgate Hill, E.C. The business will still continue to be carried on under the style and title of T. V. Olsen, but Mr. Panton will be in charge of the office in London, Mr. Olsen proceeding to Paris to open a branch office there. The firm are sole agents in Great Britain and Ireland for Torps Brug A/S, of Fredriksstad, Norway, makers of unglazed M.G. Krafts, and for Wargöns A.B., Sweden, makers of M.G. sulphite paper. The firm has also secured several valuable agencies for France.

THE UNITED STATES PULP, PAPER, AND OTHER MARKETS.

WRITING from New York on April 9th our Correspondent reports:

PULP MARKET.—Labour difficulties have created much anxiety, and as the demand for sulphite has registered a steady increase, while the supply on the other hand is steadily diminishing, the technical position of the chemical pulp market is decidedly stronger than it was last month. Pulp mill interests intimated that they were compelled to waive much business, and the meagre arrivals from the Scandinavian trades had little effect upon the domestic market. In the mechanical pulp market the situation was much the same as that prevailing in the aforesaid market. There was virtually no ground wood available, as the newsprint and the board mill interests absorbed most of the desirable offerings. Regardless of the Northern thaw, there was still considerable anxiety expressed in the trade.

WASTE PAPER MARKET.—Railroad strikes along with the difficulties in shipping have resulted in delaying shipments to an alarming degree, and the domestic situation is very precarious. The undertone of the domestic market was comparatively steady, and the consuming element displayed a keen desire to secure stocks for prompt shipment. Prices have shown appreciable advances during the month just elapsed, and according to all indications the termination of the domestic upheavals will strengthen the position of this market materially.

RAGS.—Demand was active for the majority of grades of new rags, but there was less buying interest displayed in old stock. Prices have held firm with an upward tendency. This market was also depressed by the longshoremen's and railroad strikes, and many dealers reported increasing difficulty in delivering goods. Arrivals of rags from abroad have been fair, but not large enough to have any material effects upon prices.

BOARD MARKET.—Prices for virtually all descriptions of board continued to move into new high ground. The manufacturing element manifested an active interest regardless of the high figures asked by the mill interests. There was very little board to be had in the domestic market, and quotations have been steadily advancing. The domestic output is insufficient to meet the requirements, and producers displayed much hesitancy about accepting any new business for other than distant delivery. Chip board was quoted at \$105.00 per ton; news board at \$120.00 and straw board \$105.00, f.o.b. mill basis.

PAPER MARKET.—Reflecting the strength in the other markets, all descriptions of finished paper were firm, and in many instances prices were quoted at new high levels. There was an acute shortage of newsprint paper and publishers of magazines as well as papers reported increasing difficulties in obtaining stocks. Manufacturers were endeavouring to meet the needs of their old customers, although late developments in the railroad situation made it virtually impossible to deliver goods even in the smallest quantity. The supply of fine paper was very low, while demand on the other hand increased almost steadily and prices stiffened accordingly. In many instances dealers were forced to resort to bringing the paper in on trucks owing to the transportation difficulties. Wrapping and tissue paper dealers were in the same predicament, as the other paper interests and prices have been advancing by leaps and bounds, while stocks on the other hand are nearing the vanishing point.

Mr. H. G. Spicer has been appointed chairman of Messrs. Spicer Bros., Ltd., of New Bridge Street, E.C., in the place of the late Mr. Augustin Spicer.

NOVEL AND USEFUL PAPERS.

SULPHUR PAPER.

Written and illustrated by JAMES SCOTT.

SULPHUR paper is no startling novelty, although it has for many years fallen considerably from its once highly appreciated station. It deserves, however, to be revived to as great an extent as possible, particularly because neglect in various industrial directions, where its special merits were valuable, has been paramount for the last four or five seasons, and cleanliness has, unfortunately, been the exception rather than the rule.

This paper is intended to be burnt in casks, or anything else, which are occupied by tainted gases, caused by the development of decaying or putrefying substances contained in the pores of the wood, having been soaked therein from the contents of the receptacles. When the process is properly carried out, the goods are completely renovated, and can be used again for their regular purpose. There is no limit to this procedure until the wood itself has worn out.

For the manufacture of sulphur paper it only needs the passage of good white paper through a bath of molten sulphur; the paper being preferably in strips twelve inches long and an inch wide. Precautions must be exercised in heating the sulphur, since if it should ignite it will be wasted so far as this matter is concerned. It must also be kept at a suitable temperature to ensure fluidity. Formerly, vintners used to mix a little powdered spice, such as clove, cinnamon or nutmeg with the sulphur (which was burnt direct and not as paper) under the impression that the fumes evolved during combustion impregnated the wood of the casks, and eventually found their way into the wine subsequently placed therein, and improved its aroma. Wine casks are, of course, not the only class of containers capable of being purified with the help of sulphur paper. I need not, however, go into details on this part of the topic.

The reader may find a brief account of the natures and properties of sulphur interesting, especially when it is borne in mind that sulphur is the basic material for several processes associated with the paper-making trade, e.g., sulphide, sulphite, sulphate, and similar ones.

Sulphur has neither taste nor smell. It has recently been concluded that there are at least three distinct kinds of the element, the yellowness, melting points and other features varying. But they are so intimately mixed with one another as to be quite inseparable unless the most elaborate and prolonged experiments are undertaken with the substance. The trouble to do this would not be worth the time occupied, compared with the results obtained, so far as the average person is concerned. But as a matter of scientific knowledge the fact has a decided importance.

When sulphur is heated up to a certain temperature without being allowed to catch light, it is converted into a thin yellow fluid. Upon pouring some of this fluid into cold water the sulphur immediately solidifies and again becomes ordinary sulphur.

Curiously enough, if the heat is increased beyond the point above referred to, the sulphur changes to a thick, brown, treacle-like mass, which eventually thins down while retaining that colour. If some of this brown fluid is poured into water it becomes very different from the ordinary form of sulphur, and is then really soft, pasty, and plastic like a kind of indiarubber or elastic. It can be

moulded by the fingers into any desired shape, as though it were clay or putty. But after a while—that is to say, within a few weeks—it is gradually resolved into the usual form of yellow, hard, brittle, sulphur.

But after a while—that is to say, within a few weeks—it is gradually resolved into the usual form of yellow, hard, brittle, sulphur.

After the melted sulphur has changed from the yellow to the brown fluid state it will yield a dark red vapour, provided the application and steady increase of heat is continued. This vapour which becomes yellow in contact with air, is capable of subliming on to solid surfaces as a fine yellow sulphur dust or powder, equivalent to the "flowers."

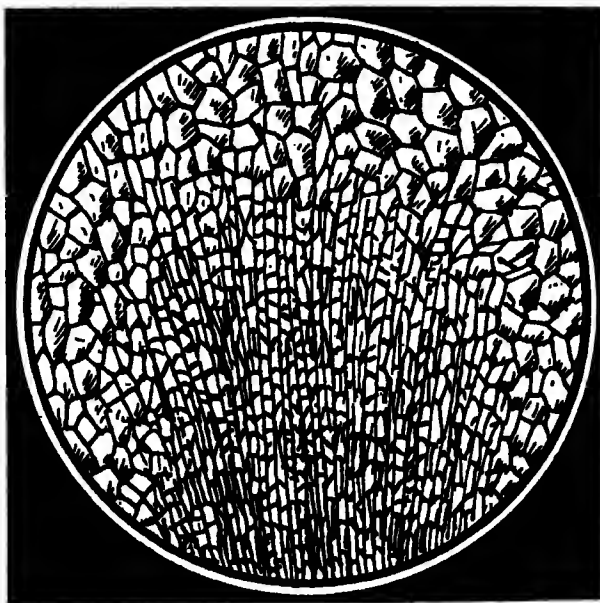
When melted sulphur is allowed to ignite it burns with a pale bluish flame the appearance of which must be familiar

to everybody. In doing so, the sulphurous gas combines with a portion of the oxygen of the air, and produces sulphurous anhydride, which is known also as sulphur-dioxide, to which the stench is due. It is this penetrating vapour which acts as a powerful germicide when the sulphur paper is burnt in casks, etc., where the purification of noxious air is desired. Water readily absorbs this sulphur-dioxide, the two substances then making sulphurous acid, from which the sulphurous odour continues to arise. When the sulphurous fumes disappear from this sulphurous acid and it may take many months to do so if the solution is kept in a corked bottle—the liquid becomes dilute sulphuric acid.

Note that sulphurous and sulphuric names are distinct.

It is possible for the gas of burning sulphur, i.e., sulphur-dioxide to combine with additional oxygen, and thus become sulphuric anhydride (also called sulphur-trioxide), which in contact with water is resolved into sulphuric acid.

Sulphur, when cooling down from the yellow melted condition to the solid form does so as clusters of crystals which are rod-like, or long rhombic objects, in dense massive sulphur, and octahedra in small scattered pieces. The shapes are modified according to the degree of pressure which the



ONE TWENTY-FOURTH INCH OF A THIN LAYER OF SULPHUR MELTED, BETWEEN TWO STRIPS OF GLASS. MAGNIFIED CRYSTALS. FORM ARE ENTANGLED AMONG THE FIBRES OF SULPHUR-PAPER

CASEIN.

GLUES & GELATINES

STOCKS KEPT.

CHINA CLAY

For Paper-Making and Coating.

TALCUM.

ULTRAMARINE.

SATIN WHITE.

MINERAL WHITE.

BLANC FIXE.

SAMPSON & WHITE Ltd.

**6, Holborn Viaduct,
London, E.C.**

element experiences, either from its own constitutional action or external forces. Microscopical action enables us to penetrate into these peculiar structures.

One seldom hears sulphur alluded to at the present time as *brimstone*, a name which was more aptly given to the stick or roll sulphur, obtained by letting sulphur vapour settle or sublime inside large chambers run down their walls, and out into wooden moulds arranged like the *brims* of hats round the outside of the chambers, hence the name, seeing that this sulphur is also *stoney*.

Sulphur may be obtained in the shape of beautiful crystals if it is dissolved in a suitable liquid, such as carbon-disulphide, and then evaporating the solution. But as this kind of treatment is on a different footing from that connected with fumigating paper, it will hardly be appropriate to further consider it; so I will say no more about it.

It has lately been proved in a scientific manner by means of careful, measured tests, that sulphur gives off vapours at ordinary atmospheric temperatures, and under normal conditions. For a long time the idea that such an emission occurred has been popular, and people have spread sulphur about garden and houses with the intention of producing such vapours. But the belief was tabooed by technical men like chemists, because the element was regarded as unchangeable until it had been strongly heated, or else chemically manipulated. However, although the custom was wholly empirical, and practised for the reason that other people did the same, it has been shown to be based on actual possibility.

It is obvious that as sulphuric and sulphurous acids can be evolved in damp casks, etc., along with sulphur-dioxide, after receptacles have been treated with burning sulphur paper, they will need thorough washing out with clean water to render them satisfactorily useable again. The effect of the several compounds gaseous and liquid thus occasioned is so strong that however, badly infected wood or other absorbent material is with bacteria, fungi and similar objectionable organisms, it is generally amenable to their purifying action. Moreover, minute insects, mites and so on which habitually accompany mouldy conditions, are vigorously eradicated.

For the purpose of ascertaining just how the sulphur behaved among the fibres of sulphur paper, I drew a strip of filter paper through some of the element when it was correctly melted. The sulphur was so densely amalgamated that it was not possible to ascertain its true formation, although brilliant crystal surfaces stood out clear. I therefore melted some sulphur between two glass slides, so as to get a thin layer, and, when this cooled to a solid state, radiating rows of crystals of the kind shown in the illustration became visible if the light was sent up through it.

NEW COMPANIES.

The Disley Paper Mill Co., Ltd., has been registered as a private company with a capital of £150,000, in £1 shares (75,000 preference). To take over the business carried on by J. Makin & Son, Ltd., at Waterside Mills, Disley, Cheshire, and to carry on the business of paper-makers, stainers and dealers, etc. The subscribers (each with one ordinary share) are: J. Makin, Goyt Lodge, Marple, Cheshire, and G. H. Kay, Glenwood, Strines, near Stockport. Permanent governing director: J. Makin (governing director J. and J. Makin, Ltd., Wallhead Mill, Rochdale). Registered office: Disley Mill, Disley, Cheshire.

The firm of Hy. Rossell & Co. was registered as a limited liability company on the 8th ult. Capital, £101,530, in £1 shares (21,530 preference and 80,000 ordinary). To carry on the business of steel manufacturers, converters and refiners, ironmasters, manufacturers of files, machine knives, spiral cutters and blades, twist drills, milling

cutters, slitting saws and precision tools and hammers, engineers, etc., and to acquire the undertaking of Henry Rossell and Company, Limited (incorporated 1808). The first directors are: J. Dickson, Westbourne House, Sheffield; H. E. Law, 8, Dick Place, Edinburgh; W. A. Law, 5, Kingfield Road, Sheffield; J. Chapman, 147, Rustling Road, Sheffield; A. G. Wilson, 37, Banner Cross Road, Sheffield. Minimum cash subscription, seven shares. Secretary: W. G. Lee. Registered Office: Waverley Works, Edingham Road, Sheffield.

Hartlepool Paper Mill Co., Ltd., have been registered with a capital of £200,000 in £1 shares to take over the business of the Hartlepool Paper and Pulp Company, Ltd., and to enter into an agreement with the said company and H. Smith. The first directors are: Sir Robert W. Carlyle, K.C.S.I., 51, South Street, Mayfair, W., director Paripam, Ltd.; C. Baker, Westcourt, Stormont Road, Highgate, N. Minimum cash subscription, seven shares. Registered office: Burn Road, West Hartlepool.

Ramsbottom, Lyons & Co., Ltd., have been registered as a private company with a capital of £50,000 in £1 shares to take over the business of paper merchants, agents and dealers, stationers and lithographers carried on by a company of same name at Manchester and elsewhere. The first directors are: J. Ramsbottom, Sweet Briars, Llanelli Road, Old Colwyn, North Wales; A. K. Ramsbottom, Woodlands, St. Amos-on-the-Sea; J. Ramsbottom, 14, Gibsons Road, Heaton Moor, Stockport; A. P. E. Andrus, Norleon, Park Road, Hade, Cheshire; W. Riley, Prospect House, Castleton, Lancs.; H. Mills, Burnage Lane, Levenshulme, Manchester. Secretary: J. W. Hayes. Registered office: Nicholas Croft, High Street, Manchester.

PAPER SHORTAGE.

MORE TROUBLE THREATENED.

MORE trouble is threatened in the paper trade, concerning which so much has been heard recently, and quite possibly a diminished supply and a further hardening of the market against British buyers (says the *Glasgow Herald*). A new situation has arisen in Norway, in which country the papermaking industry is of considerable importance. To ease home conditions the Norwegian Government is seriously threatening the export trade, dealing harshly not only with the Norwegian exporter but even more harshly with the British consumer. The Government of Norway is requiring makers of newsprint in that country to supply to Norwegian newspapers their full needs of paper at a price below cost. If they refuse, then they will not be permitted to continue their export business, with the result that their warehouses will soon be overstocked with paper, and their production must cease. Norwegian paper mills at present export largely to Great Britain, Australia, and other British Dominions and Colonies, also to France and elsewhere on the Continent. Big contracts exist, but many of them cannot be carried out under the new system proposed. Much of the paper delivered to-day to British users from Norwegian paper mills is being charged at prices fixed several months ago. If these supplies are curtailed buyers will have to purchase elsewhere at present-day prices, which are considerably higher, so proprietors of newspapers will have to face a further pinch, and buyers will probably have to accept smaller journals. Norway has almost 50 paper mills, some of them of very considerable magnitude, producing about 125,000 tons annually, the larger portion of which is exported. The view of the Norwegian Government apparently is that as high prices are now obtainable abroad the Norwegian papermakers can afford to invoice home customers at below cost.

REVISION OF AUSTRALIAN CUSTOMS TARIFF.

SCHEDULE OF IMPORT DUTIES ON PAPER.



THE new Australian Customs Tariff came into operation on March 25th last. The schedule, however, is subject to revision, as it is still under discussion by the Commonwealth. It will be seen that the new tariff contains an

intermediate scale of duties, which is now introduced for the first time into the Australian tariff. No information is available, however, at present respecting the application of the intermediate tariff. The following is an extract from the schedule :

DIVISION XIII. PAPER AND STATIONERY.

TARIFF ITEMS.

British Preferential Tariff.	Inter- mediate Tariff.	General Tariff
Free	Free	Free
Free	Free	Free
per cent.	10 per cent.	10 per cent.
5 per cent.	10 per cent.	15 per cent.
15 per cent.	20 per cent.	25 per cent.
Free	5 per cent.	per cent.
Free	35 per cent.	40 per cent.
Free	5 per cent.	10 per cent.
20 per cent.	25 per cent.	30 per cent.
35 per cent.	40 per cent.	45 per cent.
6s.	7s.	8s.
30 per cent.	35 per cent.	40 per cent.
Free	5 per cent.	10 per cent.
10s.	11s.	12s.
30 per cent.	35 per cent.	40 per cent.
Free	5 per cent.	10 per cent.
per cent.	35 per cent.	40 per cent.
6s.	7s.	8s.
Free	5 per cent.	10 per cent.
Free	5 per cent.	10 per cent.
per cent.	25 per cent.	30 per cent.
Free	5 per cent.	10 per cent.
20 per cent.	25 per cent.	30 per cent.
30 per cent.	35 per cent.	40 per cent.
15 per cent.	20 per cent.	25 per cent.
Free	5 per cent.	10 per cent.
per cent.	30 per cent.	35 per cent.
Free	5 per cent.	15 per cent.
2s.	2s. 6d.	3s. 6d.
per cent.	35 per cent.	40 per cent.

Paper*, viz. :

* "Board," when applied to paper, means a paper which, at the size of 20 by 25 inches or its equivalent weighs 70 lb. or over per ream of 480 sheets.

- (A) Pulp, for manufacturing paper *ad val.*
- (B) Paper Slavings and Waste Paper for manufacturing paper *ad val.*
- (C) (1) News Printing, not glazed, mill glazed or coated, in rolls not less than 10 inches in width or in sheets not less than 20 inches by 25 inches or its equivalent *ad val.*
- (2) Printing, n.e.i., (glazed, unglazed, mill glazed, or coated), not inked or printed in any way in rolls not less than 10 inches in width or in sheets not less than 20 inches by 25 inches or its equivalent *ad val.*
- (3) Printing, n.e.i. *ad val.*
- (D) (1) Copying and Manifold Copying, in sheets or rolls, weight not to exceed 4 lb. for 480 sheets 20 by 30 inches *ad val.*
- (2) Tissue, and Tissue Cops, Paper and Paper for paper patterns, in sheets or rolls *ad val.*
- which ever rate returns the higher duty
- (E) Monotype Paper for use in the monotype machine *ad val.*
- (F) (1) Writing and Typewriting Paper (plain), in sheets not less than 10 by 13 inches *ad val.*
- (2) Writing and Typewriting Paper (plain) in sheets less than 10 by 13 inches *ad val.*
- (G) (1) Wrapping of all colours (glazed, unglazed, or mill-glazed), browns, caps not elsewhere specified, casings, sealings, nature or ochre browns, sulphites, sugars, and all other bag papers, candle carton paper, paper felt and carpet felt paper *ad val.*
- which ever rate returns the higher duty
- (2) Fruit Wrapping as prescribed by Departmental By-laws *ad val.*
- (3) Bags, n.e.i. *ad val.*
- which ever rate returns the higher duty
- (H) True Vegetable Parchment
- In sizes not less than 8 by 38 inches or its equivalent *ad val.*
- (I) Roofing and Sheathing Felt and Paper ; Electric Insulating Paper and Boards *ad val.*
- (J) Cartridge Paper of all colours (glazed, mill glazed, rough or smooth) and Blotting Paper, irrespective of weight *ad val.*
- (K) Surface Coated Paper, n.e.i., plain or embossed, also Marble and Foil Paper *ad val.*
- (L) (1) Stay Paper and Stay Cloth, gummed on one side, in rolls cut to a width of not more than two inches *ad val.*
- (2) Gummed Paper, n.e.i. *ad val.*
- (M) Emery Paper ; Emery Cloth ; Flint Paper (being Glass Paper) ; Flint Cloth ; Filter Paper ; Litmus Paper *ad val.*
- (N) Stencil, Carbon, and other similarly prepared copying, Papers, in packets or otherwise *ad val.*
- (O) (1) N.E.I. ; Cover Paper, and Pressings *ad val.*
- (2) Paperhangings or Wall Papers *ad val.*
- (P) Paper and Boards specially prepared for coating with photographic emulsions, as prescribed by Departmental By-laws *ad val.*
- (Q) Boards, n.e.i. *ad val.*
- (R) Millboards *ad val.*
- (S) (1) Strawboard *ad val.*
- (2) Strawboard, corrugated *ad val.*

THE HELE PAPER CO., LTD.

ACQUIRED BY MESSRS. WIGGINS TEAPE & CO.

The interesting announcement is made that the directors of Messrs. Wiggins Teape & Co. (1919), Ltd., have acquired the business of The Hele Paper Co., Ltd., of Devon Valley Mill, Hele, near Cullompton, Devon, as from the 31st March last. In connection with such purchase Messrs. Wiggins Teape & Co., it is stated, have agreed to issue to the vendors 100,000 7 per cent. cumulative preference shares at par and 100,000 ordinary shares at 28s. per share. It is proposed to utilise the premium of £40,000 to be received in connection with the above mentioned issue of 100,000 ordinary shares at 28s. per share for writing off the underwriting commission and the balance of preliminary expenses account.

We are informed that the managing directors of the Hele Paper Co., Mr. J. Patrick Hepburn and Mr. John Horsburgh, will join the board of Messrs. Wiggins Teape and Co., Ltd., and that the management of the mills will remain unchanged, while no alterations will be made in the method of buying paper-making materials.

The Devon Valley Paper Mill has an exceedingly interesting record. The manufacture of paper here dates from the year 1765 as is indicated by a footnote to an indenture dated, April 10th, 1770, when the lease was sold by Abraham Elliott to William Matthews and Thomas Dewdney, both paper-makers, for the sum of £320. It was at this mill that the paper was manufactured for the catalogues of the Great Exhibition in London in 1851. By 1853 Mr. Joynson, of Kent, had acquired an interest in the mill, which contained two vats and two small machines, eventually purchasing it outright for his son-in-law, the late Mr. C. R. Collins. This gentleman, who died in 1911, greatly improved and extended the mill, and it may be interesting to know he was believed to have obtained the first contract for making British postcards, which were manufactured there from 1870 to 1883, while the half postal newspaper wrappers were made at Hele from 1870 to 1891. In 1873 Mr. T. H. Hepburn entered into partnership with Mr. Collins and 10 years later became the sole proprietor of the mill. After spending many thousands of pounds in altering and extending the premises he in 1891 converted the business into a limited company, since when considerable improvements and extensions have been effected. In December, 1913, Sir Thos. Hepburn, as the chairman of the company had then become, saw the starting up of a fine new machine, installed by Messrs. James Bertram and Son, Ltd. The papers for which Hele Mills are famous include tub-sized and air-dried writing, envelope, cartridge, drawing, chart and account book papers, etc.

Presiding at the first annual general meeting of Wiggins Teape & Co., on the 20th ult., Mr. P. W. Holden, chairman, said that the result of trading for the year had been satisfactory, having regard to the fact that the new capital had been unproductive, owing to the construction of the new photographic base paper mill at Wooburn Green. In the first six months there had been something of a slump in the paper trade on account of the uncertainty as to prices and the unsettled state of industry, and many mills became slack. During this period their mills continued to work night and day, but were never able to make up stocks to anything like normal, and in the second half of the year the demand increased by leaps and bounds and exceeded the supply. Referring to the acquisition of the Hele Paper Co., Mr. Holden said that besides the watermarks and goodwill, the property acquired consists of 23 acres of land, 32 cottages, two houses for resident directors and managers, and a well-equipped mill, consisting of two paper-making machines. By means of the mill they would be able to widen the range of their manufactures, and this would be a help to them in their export trade.

THE CORNISH CHINA CLAY INDUSTRY.

[FROM OUR ST. AUSTELL CORRESPONDENT.]

NOTWITHSTANDING the numerous difficult problems which have faced China clay producers in respect of transport and dearth of suitable coals for drying the clay and providing the necessary power, the output during the first three months of the present year has been more than double that for a corresponding period in the year 1919. The policy of some of our big producing firms has been to maintain as large an output as possible and in order to do so they have been obliged to accept the exorbitant high sea-borne freight prevailing in preference to the present railway facilities. This policy I know has been pursued by the English China Clays, Ltd., rather than endure the vexatious delays so common in railway-borne dispatches, in consequence of an insufficient number of trucks and locomotive power. The shipping problem is a very difficult one to solve when one considers that the rail cost has only increased 30 per cent., whilst shipping freights have increased as much as ten times their pre-war rates, which is not only a detriment to the reconstruction of industry, but a great imposition on the consumer. There appears to have been a considerable revival in shipping during the past month at Charlestown, Par, and Fowey. For years the port of Charlestown has scarcely received a visit from any sailing craft, whereas in pre-war days it was a continuously busy centre for coasting vessels, and many thousands of tons of China clay were despatched every year. Within the past month as many as eight vessels have been in the docks at one time, and with a main railway running so near, one is led to wonder why this once busy shipping centre could not be linked up with the great railway system connecting nearly the whole industry. At Fowey there is still an almost incredible congestion, and on one occasion, quite recently, I was informed, there were no fewer than twenty-three steamers and sailing vessels awaiting clay consignments. It is rumoured that after such a strenuous month as was experienced in March the authorities are restarting the night shift at all of the jetties at Fowey, whereas up to the present it only applied to number 4 and 7. The China clay producers can be relied upon to press their claims for a full installation of mechanical appliances at all the jetties, and in this direction their progress will be watched with more than ordinary interest by those concerned in the development of the industry.

It is understood that the opening of the Bodmin Road Valley Railway Branch line will take place very shortly. A portion of this new branch, probably to Bojca, will soon be available for traffic and when the whole line is complete it will materially assist the shipment of all clays between St. Austell and Carthew.

In an interview I had with Mr. T. Medland Stocker, J.P., one of the managing directors of the English China Clays, Ltd., I was informed that the demand for China clay in the English markets was rapidly recovering. Potteries and paper mills which were only partially worked during the war are gradually being placed again into active use. The demand for our clays in the United States was a source of considerable satisfaction to all concerned and providing that the difficulties of transport can be surmounted there should be a tremendous increase in our export trade with that country. The large American paper mills are taxed to their utmost extremity and the need of China clay is very pronounced. It is also noteworthy from the Cornish producers point of view that so many paper mills and potteries are restarting in the devastated areas of France and Belgium.

NEW PATENTS.

REINFORCING AND RENDERING PAPER AND CARDBOARD IMPERVIOUS.

No. 139,708, March 11th, 1920. — GABRIEL SITRE, of Villagnon, Charente, France, manufacturer: This invention relates to improvements in corrugated paper and cardboard. It has been proposed to reinforce corrugated paper and cardboard by causing to adhere to one or both faces thereof a paper previously rendered impervious and having a woven fabric affixed thereto on the exterior, also to impregnate a surface fabric and corrugated paper by passing them together through a bath of tar or pitch and pressing them together. The present invention consists in applying to the corrugated paper or cardboard as it is unrolled, a layer of impervious material, and applying on to this impervious substance before it is dry a fabric more or less closely woven according to the strength required. In carrying out the invention the corrugated paper or cardboard as it is unrolled from the roller on which it has been previously rolled, is coated with a layer of impervious substance such as tar to which is applied one or more layers of fabric without the interposition of an intermediate layer of paper. The layers are caused to adhere together by pressure against the unrolled corrugated paper or cardboard. The thickness of the fabric allows the rewinding almost as soon as the corrugated paper or board has been impregnated without waiting for the material to dry.

THE PREPARATION OF PULP OR FIBROUS MATERIAL FOR THE MANUFACTURE OF PAPER, ETC.

No. 137,105, January 8th, 1920. LEWIS HAYES SKINNER, of 49, Bishop's Mansions, Fulham Palace Road, London, S.W.6, Captain (retired). This invention has reference to the preparation of a "half-stuff" in the form of pulp for the manufacture of paper, papier mâché and the like. It consists essentially in the use of the tree mallow, from the stems of which can be obtained a fibre of silky nature resembling the human hair. Instead of employing the tree mallow plant itself, the latter may be grafted or budded upon the stalk of a Jerusalem artichoke or a sunflower plant; the grafting will be carried out in a similar manner to that employed in the case of grafting a rose upon a briar. The fibres can be obtained by known processes from the stems of the above plant and by appropriate mixture will form the pulp required. When the tree mallow is grafted upon the Jerusalem artichoke or sunflower, the result will be a stronger growth than would otherwise be the case. The stems are collected preferably in the late autumn and with advantage after a spell of frost.

As an example of pulp making according to this invention, I cut the stems of the plants or plant into lengths say of four inches and by means of a chaff-cutting machine. These chopped sections are put into a revolvable boiling pan for about eight hours; suitable proportions for treating in the pan would be 30 cwt. of material in about 50 gallons of water. This boiler is adapted to be emptied into a beating or pulping machine where the material is treated from two to three hours.

From this machine the material is fed through a pipe by gravity to a bleaching machine or "potcher" where it may remain for one hour. Afterwards the material is fed by gravity to a presse-pâte machine which transforms the material into pulp board.

The machines employed and above mentioned are all well known in the pulp-making industry, and it is thought that no further description thereof is necessary.

PAPERS FOR USE AS A DI-ELECTRIC FOR ELECTRICAL CONDENSERS, ETC.

No. 138,226, February 5th, 1920. FREDERICK HAIN, of Longsdon, Stoke-on-Trent, Paper Manufacturer. This invention relates to improvements in and relating to papers such as are or may be employed in the construction of condensers for induction coils, and for telephone installations and the like, and which condensers are formed by placing together sheets of metal conductor such as tin or tin-coated paper, interleaved with sheets of tissue paper. The paper is employed to insulate the conducting metal sheets from one another, and in order to obtain a condenser of high capacity with small size and weight, it is necessary to use a thin paper with must however possess good insulating and dielectric properties. Two or more thicknesses of paper are often employed where high resistance is desired in the condenser.

In the manufacture of condensers it is found that there are always variations from condenser to condenser in the electrical resistance between the metal plates divided by the insulating

paper and there is always a percentage of spoilage, i.e. of condensers in which the resistance either fails entirely or is too low for use. The variation and occasional failure of resistance is due among other causes to variations in the tissue paper, no paper as is well known being homogeneous, but composed of a large number of vegetable fibres which have been felted together in the course of manufacture. The present invention has for its object to produce a paper wherein these objections are avoided, and the inventor makes the following claims:—(1) An insulating material comprising a thin tissue paper coated with a homogeneous substance possessing good electrical insulating properties and having a backing or strengthening paper adapted to be removed before the coated paper is used.

(2) An insulating medium as specified in Claim 1 in which the coated paper consists of a thin tissue paper coated with pyroxylin, collodion, nitro-cellulose, cellulose acetate and the like

"WASTE IN WHITEHALL."

INFLATED ESTIMATES FOR PAPER AND PRINTING.

THE Stationery Office is one of the minor departments of which the estimates give an opportunity to test how far there is any real effort to restore expenditure to a normal level. The figures show that there is a net decrease of £436,338 on a total expenditure of £5,286,412. Having regard to the enormously inflated expenditure on printing and paper in all departments during the war, it is clear that this is a trifle (says *The Times*). But when the total is compared with the corresponding figure for 1913-14—namely, £1,055,708—it is possible to realise the strides made by the expenditure during the last five years.

The items of expenditure are even more illuminating. Salaries and wages and allowances have risen from less than £50,000 to more than £400,000. Carriage and transit is now an item of £100,000, compared with less than £10,000 in 1913-14. Printing for Public Departments has increased from £360,000 to £1,215,000. This is partly due to the demands of new departments. For example, the Ministry of Munitions estimates an expenditure on stationery and printing nearly double that of the Foreign Office, although the latter has made an appreciable advance on the scale thought to be adequate before the war. The Ministry of Food thinks that it will need nearly half as much again as the Colonial Office, while the Ministry of Transport wants nearly double as much as the Home Office. The entry which in the estimates for 1914-15 stood at £192,000 under the heading, "Paper for Public Departments," has now become £2,200,000 in spite of a reduction on last year of £1,000,000. Anyone who has any acquaintance with the inside of a Government office knows that the appetite of the ordinary Civil servants for files and foolscap is insatiable and hardly ever does anyone think of writing private correspondence on anything but official supplies. These, it may be said, are trifles, but they show the scale of expenditure and are just those little matters to which the private individual who desires to economise pays attention.

During the coming year it is intended to establish printing works at an expenditure of nearly £500,000. This involves an important departure, which has been taken at a time when there is a Select Committee devoting "special attention to the question of waste in connection with the printing of Parliamentary and other Government publications," who have promised to make a report on the subject. There is certainly room for a thorough reorganisation of the arrangements for the publication of Parliamentary Papers. They require more careful classification. Some are purely for departmental use and should be printed, if at all, in quite small quantities. Others are for public information and should be published on a business basis.

It is due to the two Houses of Parliament to note that the item under their immediate control—printing, paper, binding, etc., for Houses of Parliament—shows a substantial reduction on the figures even from 1914. It is the exception to a rule of extravagant waste.

BRITISH WOOD PULP ASSOCIATION.

ANNUAL GENERAL MEETING.

THE British Wood Pulp Association held its twenty-third annual general meeting on the 16th ult. at the London Chamber of Commerce. The meeting was fixed originally for the 8th ult., but so few members put in an appearance that it was decided to postpone it for a week. On the 16th there was a fair attendance. Mr. L. P. Andrews, chairman of committee, presided, others present being Messrs. I. D. Berner, Sig. Diesen, C. Greenhalgh, W. M. Greenhalgh, A. L. Griffiths, Nils Leander, S. Nicol, J. A. Nordberg, Eric Nordberg, T. Wallace, G. Westling, and James Duguid (assistant secretary).

Dealing with the annual report, which was published in last month's issue of THE PAPER-MAKER, the Chairman referred to the increase in the cost of the weekly returns supplied by the Statistical Department of the Custom House, and said that at the present cost there was a loss of £10 18s., the price having been raised from £16 to £26 per annum. He thought it would be necessary to raise the subscription.

Mr. S. Nicol said that at present the returns were bought by eleven subscribers and two trade newspapers. The remaining members of the Association had the benefit of seeing the returns without paying for them, and he thought the burden should be borne by all alike. He moved that the annual subscription be increased to three guineas; that copies of the weekly returns be supplied gratis to all members, and that an extraordinary general meeting be called to alter the rule dealing with subscriptions.

Mr. Diesen seconded, and the motion was carried unanimously.

The report and balance-sheet were adopted on the motion of the Chairman, seconded by Mr. J. A. Nordberg.

The Chairman said he was occupying a position which would have been taken by a gentleman they had recently lost. He was with the late Mr. A. E. Reed on the evening before he died, and he was talking about the Association with the keenest interest. Mr. Reed had intended to give the Association his utmost support. They had all known Mr. Reed for many years, and he personally felt that everything which had been said of Mr. Reed's private life and at the funeral those who were present heard an address in which his private life was described in the most charming terms—was true of his business life. He was always upright and honourable; his "Yes" meant "Yes" and he never went back on it. He always conducted his business carefully without undue haste and hurry, and it was always a pleasure to deal with him. The hand of death had dealt very heavily with the Association during the past year. They had lost Mr. Johnsen, and he had suffered personally by the loss of Mr. Ryder. The last-named gentleman was looked upon by him more as a member of the family than as a business colleague. He (the Chairman) added that the Association had never had an opportunity of seeing their late president amongst them, but he suggested that a formal resolution should be passed setting forth their appreciation of his public services and high personal character.

Mr. J. A. Nordberg said he appreciated to the full what Mr. Andrews had said about the late Mr. Reed. He had known him for forty years, and no one could wish to have dealings with a man who knew his business better and was more honourable.

It was eventually decided to send a letter to Mr. Reed's family expressing the Association's sense of their loss. All present rose and remained standing in silence for a moment as a mark of respect.

The Chairman, in reviewing the work of the Association, said they had had a busy year, as there had been an extraordinary crop of claims for short weight. In this connec-

tion there had been one or two meetings of Scandinavian Associations, and suggestions had come from them that tests should be made on the other side before shipment and that these should be considered final. In the coming year, too, the Committee would have to consider the question of the contract note, some changes in which appeared to be necessary.

The election of a President in the place of the late Mr. Reed was deferred pending the consent of a gentleman named by Mr. Nordberg to accept the office. Mr. Eric Nordberg was elected hon. secretary, vice Mr. C. D'Oyley Mears, and Messrs. L. P. Andrews (chairman), R. Dickson, Sig. Diesen, Chas. Greenhalgh, A. L. Griffiths, S. Nicol, J. A. Nordberg, W. H. Palmer, G. Buchanan, and L. E. Rustad were elected to serve on the committee. Mr. G. Westling was elected hon. treasurer.

It was decided to send a letter to Mr. C. D'Oyley Mears, formerly hon. secretary, thanking him for his past services.

Messrs. S. Nicol and J. A. Nordberg were appointed as a committee with a view to making arrangements for the resumption of the annual dinner.

The Chairman inquired if those present would like to express any opinion about the future of the wood-pulp trade. Although they met together, they did not get into consultation on this matter. Of course to-day the position was a very difficult and extraordinary one.

Mr. Diesen was of the opinion that it was not possible to give any forecast of the market for any length of time.

Mr. C. Greenhalgh said he hoped it would be a long time before they were fighting for orders at £3 per ton.

The Chairman, remarking that they had made it a principle that the Association knew nothing about the market, said that it might be a wise decision or not, but they had never helped each other in regard to matters of that sort.

Mr. Nicol: I think we know too much for that. (Laughter.)

The Chairman having stated that he would propose at the next meeting a new member of the Association from his own firm, expressed the hope that as the name of Mr. Albert E. Reed had disappeared from their list, they would see Mr. Percy Reed a member.

Mr. Leander intimated that he had a nomination to make.

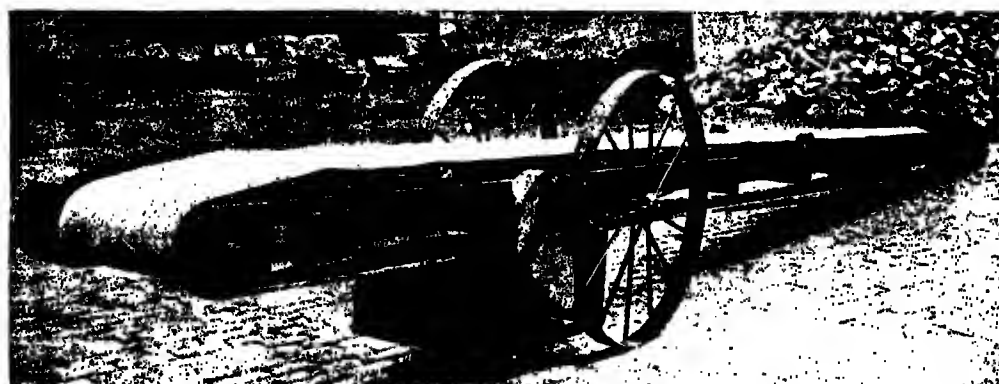
The last item on the agenda was "Other competent business," and on reaching this Mr. Chas. Greenhalgh brought up the question of excess moisture. He said the matter was causing a great deal of dissatisfaction at present. He suggested that analysts should come over from Sweden to see how the pulp was tested here, and that British analysts should be sent to Sweden to see how the pulp was tested over there. There was no doubt in anybody's mind that both the Scandinavian pulp merchants and British paper-makers were quite honest in the matter, but he thought an exchange of technical men would enable them to get each other's point of view.

Several members concurred with this point of view, and the Chairman said he was quite sure that pulp and paper men of both countries were anxious for fair play. The matter was one which would have to be gone into very carefully by the committee.

The meeting terminated with a cordial vote of thanks to Mr. Andrews for presiding.

THE New South Wales Government intends to undertake almost immediately experiments in the manufacture of paper from local timbers. A committee, consisting of Mr. W. A. Gullick (Government printer), Messrs. R. T. Baker and H. G. Smith (of the Sydney Technical College), and two other Government officers, is now arranging for the introduction of a plant into New South Wales. This action has been taken in consequence of the satisfactory reports received from Canada of laboratory tests on the suitability of selected Australian timbers.

Type 'B' Patent Portable Troughed Conveyors



These Machines are at work in almost every trade. They immediately cut your labour costs in half, at the same time handle more than four times the amount of material previously handled.

Our Type "B" Portable Trough Conveyor, shown in the above illustration, is designed to handle a variety of material horizontally or at a slight incline. Material can be placed on the conveyor at any point between the feed and discharge end, or we can furnish a feed hopper at the receiving end. The machine is of light construction to retain portability. The closely spaced troughing idlers provide a strong belt support to carry heavy pieces weighing up to 200 lbs.

We can furnish TYPE "B" CONVEYORS with 16" or 18" wide belts in the following lengths:—16 ft., 19½ ft., 23 ft., 26½ ft., 30 ft., 33½ ft. and 37 ft. complete with electric motor.

If you prefer to supply your own motor, we require to know the diameter and speed of motor shaft in order to furnish the proper drive. We stock drives to suit motors from 700 r.p.m. to 1800 r.p.m. These Conveyors can

also be arranged for petrol drive.

By working one 'B' Type in conjunction with an 'A' Type a most flexible conveying system may be arranged.

Let us make arrangements for you to see these conveyors at work.



Type "A" Patent Portable Scoop Conveyor, loading from pile into truck.

Sole Selling Agents—

Established 1790

C. H. JOHNSON & SONS, LIMITED

Telephone:
201 CHEETHAM HILL

Smedley Road, MANCHESTER

Telegrams:
'IRKDALE Manchester'

OUR "STUFF-CHEST."

BY "THE AGITATOR."

ACCORDING to the *Newspaper World*, *The Chinese Standard*, the first Chinese newspaper in Great Britain, will shortly see the light in Poplar. It will be lithographed.

MR. GEORGE HARRISON, paper agent and merchant, late of 33-35, Eastcheap, E.C.3, has removed to 32, Queen Victoria Street, E.C.4. The telephone numbers will in future be Central 6180 and 6181.

ALDERMAN SIR T. VANSITTART BOWATER, BART, and Major Frank Bowater were among those present at the 24th annual dinner of the Association of Lancastrians in London, held recently at the Criterion Restaurant.

MR. R. CILROY, J.P., director of Messrs. Peebles & Co., paper manufacturers, of Rishton, chairman of Rishton District Council, has a remarkable record of service. He attended 44 out of a possible 44 Council meetings last year. He was recently appointed to attend as delegate a conference of local authorities on finance and housing held in London last month, and has again been appointed Chairman of the Council.

At the annual ball of the Feniscowles Branch of the National Union of Paper Workers at Blackburn Public Halls on April 3rd, there was an attendance of nearly 600, and a substantial sum was raised in aid of the Union's Benevolent Fund. It was appropriate that the Workshops for the Blind Orchestra should provide the music, and the duties of M.C. were discharged by Messrs. T. Baldwin, H. Smith, W. Ashworth, and E. Robinson.

The funeral took place recently, at the Milton Parish Churchyard, of Alfred James Weeks, who died from injuries sustained in an accident at the Sittingbourne Paper Mills. The Vicar (the Rev. D. L. Lyett) officiated. The remains of the deceased were borne to the grave by six of his workmates, and a large number of the workmen followed. Mr. A. A. Richards (Chief Engineer) and Mr. G. Rossiter (Foreman Engineer) were also present.

The death took place recently of Mr. Norris Bradbury, Tynwald Mount, Royton, Lancashire, a director of the Darwen Paper Mill Co. Mr. Bradbury had only been ill a few days. He was also a prominent man in the Lancashire cotton trade, and last year, as a peace offering, he purchased Tandle Hill Park, Royton, and presented it to the district. For 40 years he had been a member of the Manchester Royal Exchange. He was 60 years of age.

EARLY on the morning of the 15th ult. the Radcliffe fire brigade were called to Messrs. Wild's paper mill in Dumers Lane. A large quantity of waste paper and rags had been found burning by a machineman, in a place over a machine-room, and where there was a serious fire two years ago. A sprinkler system is now established, and sprinklers coming into operation helped to check the flames until the arrival of the firemen. Damages amounting to £450 was done.

The death occurred on April 7th of Mr. Rd. Seed, head of the firm of Messrs. R. Seed & Sons, printers and paper merchants, of Preston, who died following a long period of ill-health at Torquay, where he had been staying since September last. Deceased served his apprenticeship with Mr. J. Worthington, and afterwards opened on his own account in Friargate, later taking premises in Lune Street, Woodcock Court, and Guildhall Street. He was associated with many worthy movements.

At Darwen, on the 14th ult., an inquest was held on Thos. Chadwick (34), paper reeler. It was stated that, whilst following his employment at Spring Vale Paper Mill, on March 24th, deceased met with an accident, his right hand being caught between two rollers. Dr. Willett, who conducted a post-mortem examination, said death was due to pneumonia. In his opinion the accident, if not the primary cause, predisposed the fatal termination. A verdict in accordance with the medical testimony was returned.

OWING to the recent death of Mr. J. B. Watherspoon, who was managing director of Messrs. Wm. Macintyre, Junr., & Co., Ltd., for a period of over forty years, the management meantime devolves on Mr. T. S. Allan, one of the directors of the company. Mr. Allan is well known to many members of the trade through his connection with the Penelope Company, and we are sure that the reputation of the Blackhall Mills, so long known for its production of high-class chromos, etc., will not suffer at his hands.

MR. BERNARD REDMOND, who has been employed by Messrs. Porritt Bros. & Austin Ltd., for fifty-seven years, was presented recently with a silver-mounted engraved walking-stick by the spinners at the mills, and a tobacco pouch and pipe from the carders and cardroom hands on his retirement from the mills. In making the presentation, Mr. Tom Hoyle spoke of the good feeling which had existed between Mr. Redmond and his workmates. For many years Mr. Redmond was the mule-overlooker. Messrs. Porritt Bros. & Austin, Ltd., are a branch of Messrs. Porritts & Spencer, Ltd., manufacturers of papermakers' felts and jackets.

MR. TOM WILSON, the head engineer at the Gugg Paper Mills, Bury, recently obtained another appointment, but the management prevailed upon him to remain with them, and the employees in the engineering department showed their esteem for Mr. Wilson by making a presentation to him. The gift was a leather dressing case, and it was handed to Mr. Wilson at a gathering held at the Church Inn, Spring Street, by Mr. T. Toone, the oldest mechanic in the shop. Mr. Gordon Henry, assistant engineer, presided over the evening's proceedings, which were of a most enjoyable character, musical items being given by members of the company. Mr. Wilson suitably acknowledged the gift.

THE many friends of Mr. C. B. R. Maltby, who some years ago left England for New Zealand, will be interested to learn that Mrs. Maltby and himself recently gave a "Welcome Home" dance at their residence, Abbott's Hall, Napier, New Zealand, in honour of the return of their son, Private D. C. B. Maltby, "from the wars." A large number of friends were present to extend a welcome to the young soldier, who has just come back from Samoa after twenty months' service there. Prior to that he saw fighting in the Palestine area, taking part in the battle against the Semissi on Christmas Day, 1915. He was then in the Rifle Brigade, having left with the Seventh Reinforcement, afterwards being invalided home with dysentery.

At the Junior Conservative Club, Blackburn, on March 24th, an interesting presentation was made to Mr. Pem Isherwood, a representative of the Blackburn Paper Co., to mark his completion of 21 years as secretary. The gift consisted of a case of cutlery and was made by the chairman, Mr. A. Shaw, who said Mr. Isherwood was one of the most popular men they had in the club. They had never had a discourteous word, and he had never left his work except during the 1,000 days he assisted his country

in the war. Mr. Isherwood said he had tried to make the club better than he found it and he remembered he was instrumental in abolishing gambling games. He took a little pride in the fact that the members had backed him up in that matter.

A SOMEWHAT serious fire broke out at the Farnworth and Bold Works, of Messrs. H. D. Pochin & Co., Ltd., of Manchester, on the 9th ult., causing damage amounting to some thousands of pounds. The plant, where the firm make the sulphate of alumina, was damaged by the fire, also a large quantity of the raw material used for manufacturing purposes, together with a quantity of small stores. This will very probably delay production for some little time, but Messrs. Pochin & Co. are making temporary arrangements in order to keep up supplies of goods for their friends, although there may be some delay in getting out the goods as required. The company's own brigade was able to confine the fire to the department in which it broke out until the arrival of the Widnes Fire Brigade.

"PAPER-MAKING" was the subject of a lecture given recently by Mr. T. D. Nuttall, of Messrs. Bentley & Jackson, Ltd., to the members of the Bury and District Branch of the United Kingdom Commercial Travellers' Association. The lecture was well illustrated by lantern slides. Mr. Nuttall spoke on the art of the paper-maker, mentioning the various fibres from which papers are made, and describing in elaborate and lucid detail the methods of treatment of the fibres and the machinery employed. He also gave details of astonishing progress made in the industry in the past century. To-day there were machines making newsprinting papers at the rate of nearly three tons per hour, or over 70 tons per day. He had seen a machine making 850 feet per minute, and it was hoped before long to speed it up to 1,000 feet per minute.

PAPER mill workers in the Bury district some weeks ago instructed their officials to ask for an advance of wages in view of the increasing cost of living. On March 4th the Employers' Federation of Paper-Makers granted three-halfpence per hour to adult males, one penny per hour to women of 18 years and over, one penny per hour to youths of 18 years and over, one halfpenny per hour to boys under 18 years, and one halfpenny per hour to girls under 18 years. At a mass meeting of the Radcliffe branch held recently it was resolved that "we deem the bonus granted grossly inadequate, and urge our officials to demand the 15s. for all male workers over 18 years of age, 7s. 6d. for all females over 18, and 4s. for all juniors, the same to be made retrospective to the date the voluntary bonus grant was put in operation."

On the occasion of the termination of his connection as head engineer of Messrs. John Dickinson & Co.'s paper mill at Croxley, to take up the position of chief engineer at Bass's Brewery, Burton, Mr. Alec. Smith was, on the 9th ult., the recipient of a handsome writing desk suitably engraved and subscribed for by the mill employees. The presentation was made in the dining hall of the mill in the presence of a large attendance of workers by Mr. John Wilson, chief papermaker. Mr. A. Beck, of the engineering department, presided. Mr. Smith, who expressed his warm thanks for the gift, began work with the Guardbridge Paper Co., and subsequently occupied the position of chief engineer in other mills in this country and in India. Before going to Croxley, five and a half years ago, he was engaged at the Ford Works, Sunderland, and everywhere won the high esteem of his colleagues and those over whom he had charge.

AMONGST the gentlemen connected with the paper trade who appeared in the recent honours list was Alderman Sir Edward Holt, Bart., who was awarded a C.B.E. Sir Edward is chairman of the Manchester War Pensions Committee, and chairman of the Turner Paper Mill Co., Ltd., Rawcliffe Bridge, Yorkshire. Mr. H. G. Bradley, who was technical adviser to the Paper Import Restrictions Department, received a C.B.E., and Mr. W. Lindley Jones, chief organiser of Waste Paper Collections, an O.B.E. Mr. Ernest G. Brittain, technical expert, Messrs. James Spicer & Sons, Ltd., and Mr. A. W. Tangye, chemist to Messrs. Brunner, Mond & Co., Ltd., have been made Officers of the Order of the British Empire, whilst Mr. James Smith, who acted as Secretary of the Paper Control Department, Board of Trade, and Mr. Wilfrid F. Macdonald, chief engineer, Messrs. Spicer & Sons, Ltd., have been made members of the Order.

MR. JAMES CRAIG, for 34 years chief engineer of Messrs. Jas. Wrigley & Son, Bridge Hall Mills, Bury, has resigned his position owing to the sale of the mills to another firm. Mr. Craig came in 1886 from Edinburgh, where he was manager in a large engineering works, and joined Messrs. Jas. Wrigley & Son as their chief engineer. He has filled that position with conspicuous success, and was highly respected and esteemed by everybody who knew him. To mark the respect in which Mr. Craig was held by the employees of Messrs. Jas. Wrigley & Son, a subscription was set on foot and was subscribed to spontaneously by practically everybody in the mill. A deputation from the mill visited Mr. Craig at his house and presented him, on behalf of the workers with a wallet containing £30 in notes. Mr. H. Plant (papermakers' foreman), Mr. Walter Taylor (foreman mechanic), and Mr. George Taylor (chief clerk in the office), made the presentation on behalf of the workers, to which Mr. Craig suitably replied.

In the course of his address to the shareholders of the United Alkali Company at Liverpool, Mr. Max Muspratt, who presided, said that the transference of the company's operations from a war to a peace basis had taken much longer than was anticipated, and it would be well on in the present year before they would be completely at work on the new processes, whilst their enormous programme of deferred repairs could scarcely be completed for some time to come. Manufacture was carried on under adverse conditions, and costs were extremely high. From a national point of view one could not fail to be alarmed at the universally high cost of production of all commodities, inasmuch as the manufacturing supremacy of England depended on her power to produce more cheaply than other countries. In connection with the increased cost of manufacture the chairman mentioned that labour, which cost £750,000 per annum before the war, cost last year £1,750,000, and fuel, of which the company used some 800,000 tons, cost 27s. per ton, against 11s. per ton in 1915.

THE prospectus of English China Clays, Ltd., was recently published to comply with Stock Exchange requirements, for public information only, and not as an invitation to subscribe for shares. It stated that the Company was formed to acquire and work the whole of the china clay works, china stone quarries, brick works, cooperages, etc., owned or controlled by Martin Brothers, Ltd., the West of England and Great Beaulieu Clay Company, Ltd., and the North Cornwall China Clay Company, Ltd. The china clay works of John Nicholls and Company, Ltd., have also been recently acquired. The capital is £2,000,000, divided into 400,000 7 per cent. cumulative preference shares of £1 each, and 1,600,000 £1 ordinary shares. The issued capital amounts to £1,480,686. The whole of this capital has been issued to the shareholders of the amal-



MODERN Paper Making Machinery to ensure maximum output at minimum cost should include

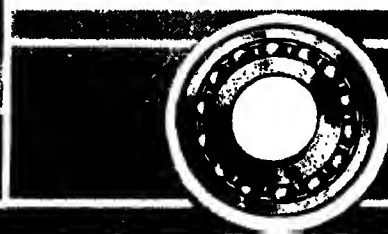
SKEFKO. SKF
Ball Bearings.

VIEW OF THE HOLMENS
PAPER MILLS AT HALLSTAVIK.

The drying cylinders are fitted with **SKEFKO. Ball Bearings**. May we send you particulars?

THE SKEFKO BALL
BEARING CO. LTD.,
LUTON — BEDS.

SKEFKO.



AKTIEBOLAGET KLIPPANS FINPAPPERSBRUK

THE KLIPPAN PAPER MILLS, (LIMITED).

Established 1573.

Telegrams :
"Pappersbruket," Klippan.

Codes used :
Western Union ; A.B.C.
(5th Edition) and Private.

KLIPPAN



SWEDEN.

Sweden's Oldest
Established Paper Mill.

Established

EXPORT THE FINEST QUALITIES OF TISSUES AND COPYINGS in Sheets and Reels.

SILVER WRAPPING PAPER, &c.

Speciality: COLOURED TISSUES & CREPE PAPERS. Large assorted Stock kept. Special Shades made to order.

WAXED TISSUES, white and coloured. CREPE & CRINKLED TISSUES, all colours.

Ivory Boards. High-class Post and Writing Papers. Extra Thin Letter Paper, White and Tinted. Thin Printing, etc.

gamating companies in accordance with the terms of the amalgamation agreements. The directors are empowered by the articles of association to borrow money to an amount not exceeding the nominal capital of the company for the time being. It is not proposed to exercise these powers in the near future unless some considerable development of the business of the company should make it desirable to do so.

In moving the adoption of the report at the first ordinary general meeting of Charles Morgan & Co., Ltd., held recently, Mr. W. A. J. Foster (chairman), said: Although the company has only been in existence since August, I wish to express the great satisfaction of the board that our first report shows that the traditions and prosperity which have characterised the business for so many years as a private firm have been maintained in its new form as a public company. To-day the directors feel justified in believing that the second year's trading will not only maintain those traditions, but will solidify and broaden them, and that the board will be in a position to announce at the next annual general meeting some important developments with regard to our factory which will greatly increase the prosperity of the company. Provided we have settled conditions in the future, the directors firmly believe that they will be able to maintain the firm in the satisfactory position to which it has attained. We have benefitted greatly in the revival of trade through the high reputation the firm has held in the past, and our turnover for the present year is about 80 per cent. more than for the corresponding period of last year, and there seems no reason why this increase should not be maintained, provided we can obtain supplies from the mills. In view of the very large increase in turnover, which seems likely to be maintained throughout the year, and enormous increase in the cost, it may be necessary for the board to make a further issue of our authorised capital, so as to enable us to take full advantage of the present position. The directors are giving this matter their careful attention. The resolution adopting the report was carried.

In accordance with the practice that has been established for His Majesty's overseas offices when in this country to visit various industrial areas in order that manufacturers and merchants may have the opportunity of consulting them on any matters connected with their business or of obtaining information as to the possibilities of extending their overseas trade, it has been arranged for Mr. T. M. Ainscough, O.B.E., His Majesty's senior trade commissioner in India, to undertake a tour of certain areas. Mr. Ainscough who has recently arrived in this country, will commence his tour in London on Monday, May 3rd. It is proposed that visits shall be paid to other centres in the United Kingdom in due course. Mr. Ainscough will be pleased to meet manufacturers and merchants who wish to consult him in regard to steps to be taken for opening up trade with India and who are desirous of obtaining advice and information as to the state of trade in that country. Among the matters in regard to which he will be prepared to give information and advice are the general state of trade in India, appointment of agents, methods of marketing and distribution of goods, terms of payment, statistics of imports, rates of customs duties, and general information as to the openings existing for British goods. It is to be understood that the Trade Commissioner is primarily interested in the imports from the United Kingdom into the territory in which he is stationed and not in the exports from that Dominion to this country. Firms desirous of meeting Mr. Ainscough should communicate without delay with the Department of Overseas Trade, 35, Old Queen Street, London, S.W.1.

A SERIOUS accident, which ended fatally, occurred at Sittingbourne Paper Mills on the 4th ult. Alfred James Weeks, a single man aged 43, who was a fitter's labourer, was one of a gang of men engaged in changing rubber rolls on one of the largest paper-making machines (No. 17). The rolls weigh several tons, and one of these had been taken out, and was resting on two large bales of wood pulp, a bale being under each end of the massive roll, and another was slung in a crane ready to be hoisted in position, when the stationary roll slipped down from the bales of pulp, and Weeks, who was standing between the two, was caught between them and badly crushed about the lower part of the body. Weeks was removed to St. Bartholomew's Hospital, Rochester, and died on the following morning. At the inquest, Mr. A. A. Richards, chief engineer at the Paper Mills, said orders had been issued to change the bottom press roll, and the proper method of doing this was to move the top one, which swung up out of the way. The crane was then brought over to plumb the bottom roll, which was lifted and drawn end-ways out of the machine. Witness did not exactly see the accident, but said he knew how it happened, and he gave exhaustive technical explanations and details. The rolls were made of cast iron, covered with rubber, and in order to prevent the rubber from becoming damaged, it was advisable to lay the ends on something soft. The ends were accordingly placed on two bales of pulp. The new roll was then brought up by means of a crane, of which deceased was in charge. Deceased was standing between the two rolls, and apparently the roll which he had fetched was not exactly in the right position to go into the machine, and he gave orders to move the crane towards the roll resting on the pulp. Apparently deceased forgot the roll resting behind him, and immediately the crane moved the swing of the roll forced him against the stationary roll, and pinched him across the pelvis. The effect of the pinch caused the stationary roll to move slightly, and it fell from the bales, but did not touch deceased, who was found sitting between the two rolls. The rolls weighed seven tons each, and were 2 ft. 6 in. in diameter. Deceased was skilled at his work, and was employed purposely for changing these rolls. The Coroner, having briefly summed up, the jury returned a verdict of "Accidental death," and found that no blame attached to anyone. Mr. Richards expressed his sincere regret at the accident, and the sympathy of the firm towards the bereaved relatives. He said he was instructed by Mr. Frank Lloyd to say that the firm was making ample provision for deceased's aged mother, he being her support, and would see to it that the old lady would never want for anything.

PAPER IMPORTS AND EXPORTS RISE IN VALUE.

In a recent number of the *Board of Trade Journal* an interesting analysis was given showing the rise in value since 1913 of both the imports and exports of this country.

In the case of paper and manufactures of paper the average values of imports had risen by 216 per cent., and those of exports by 240 per cent. The paper-making materials imported had risen in average value by over 233 per cent., and cost £11,600,000 more than equal quantities would have cost at 1913 values. The exports of paper and paper manufactures were valued at £3,000,000 more than would represent the value at the 1913 price level of the same goods. In this case the materials imported contributed to home consumption rather than to export. The quantity of such imported materials retained in this country in 1919 was 10 per cent. less than in 1913, and the manufactured exports were, in quantity, only one-third of those exported in 1913.

MARRIAGE OF MR. HERBERT B. BRINDLE.

An interesting wedding was solemnized at St. Mark's Church, Witton, Blackburn, on the 21st ult., the contracting parties being Mr. Herbert B. Brindle, (son of the late Mr. George Brindle, of Darwen, managing director of Messrs. Brindle & Sons, Ltd., Samlesbury Paper Mills, Houghton, near Preston, Lancashire) and Miss Margaret Mary Mercer, daughter of Mr. and Mrs. T. T. Mercer, of "Merecroft," Mavis Road, Blackburn.

The event evoked considerable interest in the Blackburn district, and a large and fashionable gathering assembled to witness the ceremony. The church had been suitably

case, the bride's gift to the bridegroom being a tortoise-shell cigarette case. The manager, staff, and employees of Samlesbury Mills presented a silver salver and silver serviette rings.

Mr. and Mrs. Brindle will take up their residence at "Whitefriars," Blackburn, on their return from Scotland.

The founder of the firm of Messrs. Brindle & Son was the late Mr. George Brindle, J.P., who belonged to a Darwen family of local repute, and was a man of sterling character and grit. It is worthy of remark that Mr. Brindle, when seventeen years of age, passed the examination of the



MR. H. B. BRINDLE.

MISS MERCER.

decorated for the occasion, and the officiating clergyman was the vicar of the parish, the Rev. W. Fydes, M.A.

The bride, who was given away by her father, was charmingly attired in a gown of cream georgette over satin, draped with antique lace—the gift of Mr. Alex. Mercer, of Ilkley, the bride's great uncle—wearing veil and orange blossom, and was attended by two bridesmaids, Miss Phoebe Mercer and Miss Alice Walker, their gowns being of yellow georgette over satin, with hats *en suite*, and their ornaments were gold slave bangles, the gifts of the bridegroom.

The best man was Capt. W. E. Nuttall, of "Gilsbrook," Rivington, near Bolton, and the groomsmen were Mr. Henry Backhouse, junr., and Mr. F. W. Lee.

Subsequently a reception was held at the Old Bull Hotel, Blackburn, and afterwards at the bride's home. A very hearty send-off was given when the happy pair left for their honeymoon, which was spent in Scotland.

Some very handsome presents were received. The bridegroom's present to the bride was a fitted dressing-

Lancashire Union of Mechanics' Institutes, and had the honour of receiving his certificate of success from the hands of Charles Dickens, who on that occasion distributed the prizes at the Manchester Free Trade Hall. In February, 1871, Mr. Brindle, father of the bridegroom, along with Mr. John Isherwood, Mr. Joseph Kay, and Mr. Wm. Taylor, started the first limited liability paper company at Darwen. They built a two-machine "brown" mill at Lower Darwen, and afterwards built a second mill for the manufacture of "news" at Spring Vale, where in a short time three machines were erected. The proprietors of both these mills are now known as the Darwen Paper Mill Co., Ltd. Subsequently, owing to doubts about the water rights connected with Spring Vale mill, Mr. Brindle retired from the directorate, as did also Mr. Isherwood. They then formed a company known as the Burnley Paper Mill Co., Ltd., being the first two directors. Meanwhile Mr. Brindle and Mr. Isherwood bought Samlesbury Mill (formerly a cotton mill), and worked it as a private concern, and afterwards retired from the directorate of the Burnley

Company. These gentlemen took possession of Samlesbury Paper Mill on August 11th, 1879. On the death of Mr. Isherwood, his two elder sons were taken into partnership by Mr. Brindle. This partnership lasted about seven years, when the Isherwood brothers withdrew, and began paper-making on their own account at Simonstone, near Padiham. At this period Mr. John Mather became a partner at Samlesbury Mill, the style of the firm being Brindle & Mather, Ltd. In 1905 Mr. Mather drew out of the firm, and Mr. Brindle's only son, Mr. Herbert Brindle (the bridegroom), who was about to attain his majority, joined his father as partner. There was considerable rejoicing over the event, and the employees marked the occasion by presenting young Brindle with a handsome silver rose bowl, suitably inscribed. It has always been the custom of the firm to give their workpeople a day's excursion each year, and to celebrate the happy event the firm took their employees to the Lake District.

Mr. Brindle, senr., died in December, 1906, greatly beloved by all who knew him. Mr. Herbert B. Brindle became head of the firm, and the happy relations which obtained in his father's time have been continued under the present regime.

Mr. H. B. Brindle, the bridegroom, received his early training at Blackburn Grammar School, after which four years were spent at Silcoates College, Yorks. Subsequently he was a student for two years at Manchester Grammar School, and finally completed his scholastic career at the Manchester College of Technology, where he studied both the chemical and the practical side of paper-making.

Mr. Brindle has an able manager in Mr. A. Marshall, who was appointed in 1908, and had previously been with the Burnley Paper Co., Ltd., Messrs. T. H. Bricken & Co., Ltd., and Messrs. Cooke & Nuttall, Ltd., Harwich.

OPENINGS FOR THE BRITISH PAPER TRADE.

FROM THE "BOARD OF TRADE JOURNAL" AND OTHER SOURCES.

AN agent in Durban wishes to secure additional agencies for United Kingdom firms for brown kraft, wrapping, grease-proof, yellow cap, etc., paper. (Reference No. 522.)

AN Italian firm established in Milan desire to represent on a commission basis British exporters of raw materials for the manufacture of chemical products for paper mills. Correspondence in English, French, and Italian. (Reference No. 534.)

A MANUFACTURER'S agent in Winnipeg desires to represent United Kingdom suppliers of lithographic paper, book paper, envelope paper and vegetable parchment, on a commission basis, for the whole of Canada. (Reference No. 516.)

A TORONTO firm make enquiry for the addresses of United Kingdom manufacturers of machinery for the de-inking, and de-libring of waste paper intended for re-pulping. Replies should be sent to the Office of the High Commissioner for Canada, 19, Victoria Street, London S.W.1.

[Unless otherwise stated, inquiries relating to the foregoing should be made personally or by letter to the Department of Overseas Trade (Development and Intelligence), 73, Basinghall Street, E.C.2.]

FOR

QUALITY

AND

QUANTITY

COMMUNICATE WITH THE

ORIGINAL

RELIABLE FIRM

COOKSON BROTHERS,

STOCKPORT, ENGLAND.

Telegraphic and Cable Address:

"BAGGING, STOCKPORT."

Codes—A B C 5TH EDITION, LIEBEN'S, WESTERN UNION, WASTE TRADE, PRIVATE.

Telephone:

No. 609 Stockport (3 lines)

Every description of Linen Bags, Cotton Bags, Woollen Bags, Ropes, Bagging, Burnt Tares, Hessian Twines, Canvas, Tarpaulin, Wood Pulp, Engine Waste, Sponge Cloths, Cotton, Cotton Waste, New Papers, Waste Papers, etc., etc.

NORTHERN NOTES.

MANCHESTER BRANCH OFFICES,
448-450, Produce Exchange,
April 20, 1920.

There is no indication of a stop in the upward trend of prices for all grades of wood pulp, and undoubtedly the figures now ruling are records, and of course quite unprecedented. I understand that much business is still being done for forward, and seemingly it is a matter of some difficulty to keep pace with the quotations, while any delay in closing with offers now means much money lost.

Bleached sulphite is away up over £75, and I am told that every offer sent out abroad brings back counter quotations at enhanced prices. Easy bleaching sulphite seems to be selling fairly well for forward delivery at well over £60 per ton, with not a great deal offering, while a few of the mills are on hold for months ahead. Strong sulphite is nearing 1,000 kr f.o.b., and the mills in Sweden are not at all anxious apparently to sell for forward delivery.

Moist mechanical is steady at £17 per ton f.o.b. Norway, and even at this price a fair amount of business is passing.

There seems to be a general idea prevailing that the quotations now being asked are extortionate and out of all reason, since prices have more than doubled during the past four months, and I can find no one in this particular trade able to give any sound reason or argument to back up the continual rise in price. Undoubtedly much forward buying has been done, and just what will happen, if a rationing order for pulp is again put into force, remains to be seen.

During the past month I have heard quite a number of people interested discuss this question of rationing wood pulp supplies to this country, but it seems to be a generally accepted conclusion that this country cannot act alone in this matter without incurring serious trade results.

We certainly cannot afford to restrict the output of paper in this country at the present time if America, France and Italy are to be allowed to go ahead and buy just what quantities of pulp they require at any price demanded. This policy will not help to steady the market at present, since we all know there is a very serious shortage of pulp, and that every ounce can be placed elsewhere in the event of this country restricting supplies.

Unquestionably the present outlook is none too pleasant, and it certainly needs most careful consideration by those who have to secure forward supplies. Moreover, the opinion prevails that prices must keep up for at any rate many months to come.

This conviction must certainly account for the big business that has already been done in Lancashire for forward delivery.

A matter which is of deep concern to some of the bigger mills here is the financing of the big shipments booked at high prices to come forward, but I am given to understand that there is a great deal of loose money in the pulp and paper trade that can be had at a discount for the mere asking.

Freights from Norway and the Baltic are much firmer than when the last notes were written, and I am told that

nearly 100 kr. has been quoted and accepted for wet pulp to be lifted next month from the Baltic to the West Coast.

Many interesting and startling tales are going the rounds of the trade regarding lost opportunities in the matter of the purchase of pulp, but of course not for publication.

One example may be permitted, however. It is a case where the buyer of a big concern entered the market for supplies when the price of the special class of pulp used at the particular mill in question was round about £25 per ton. He bought for prompt at this figure and expressed the opinion that the market was being "rigged," and although much pulp was offered him for forward at a little advance, steady refusal met the sellers.

Seemingly this buyer has entered the market and made purchases of fairly large quantities of pulp on three subsequent occasions during the past four months and has had to pay £10 advance on each occasion.

I am also told that cases could be mentioned where two mills making the same grade of paper have pulp coming forward from the same pulp mill and the invoices show a difference of £30 per ton.

It has been pointed out to me on several occasions (and I think I have mentioned the matter before in my notes) that the Paper Makers' Association could save a great deal of money for their members if they could appoint a commission to travel around Norway and Sweden and place the results of their investigations before the Association.

My informant observed that it was an easy matter to think out how many hundreds of thousands of pounds could have been saved to the paper-makers generally in this country had proper information been laid before their Association as to what was happening and likely to happen in regard to supplies of pulp from abroad.

The Norwegian and Swedish manufacturers of pulp have had to pay another increase to their workers which amounts, I understand, to 2 kr. per shift. This means that a pulp mill having, say, 250 workmen will have to pay out 750 kr. extra per day. All this, of course, will be added to the cost of pulp.

MANCUNIAN.

IN Government factories where during the past few years heavy machine drives abounded, most successful results have been achieved by "Gripoly Hercules" belting—powerful combination of "Gripoly" and selected leather strips. It is designed to stand up to the most severe and continuous friction on the edges and in spite of its herculean strength it is not unduly rigid, but retains a flexibility which renders it suitable for a diversity of purposes. This belting, which is manufactured in sizes varying from 2" to 36" in width, has immense tensile capacity and can be recommended for slow arduous drives and for heavy work in general. In fact it is the most powerful transmitter which can be made. So if other belts have been tried and failed do not be alarmed, but wire to Messrs. Lewis & Tylor immediately for a length of "Gripoly Hercules." The initial cost is of course very high, but the buyer must bear in mind the fact that when one side is showing signs of wear the belt can be run with equally good results on the other side. Where belt speeds are low and the horse-power relatively high, do not be bothered with ordinary belts but commence straight away with "Gripoly Hercules" which is guaranteed to give satisfaction.

MR. G. R. HALL CAINE AND HIS MISSION TO CANADA.

In the course of an interview with the Montreal correspondent of the *Paper Trade Journal* (New York), Mr. G. R. Hall Caine, who is now in Canada on a two months' visit to the Dominion, investigating the pulp and paper situation for a group of prominent English and French manufacturers, stated:

"The situation in England and France during the past six months has been that we were constantly faced with the rapid rises in price—partly due to altered conditions in our home mills, such as the new labour conditions, and partly due to rapid increase in the price of raw material over which newspaper owners have no control. The newspaper proprietor's point of view is that he cannot keep changing the price at which he sells his journal from month to month, whereas the manufacturer is able to do that. Also he cannot reasonably change his advertising rates to meet the rising cost of newsprint. Advertising rates must be fixed for some length of time so that the advertiser can figure on the same price for a number of insertions. The newspaper proprietor must also know within certain limits how much newsprint he can count on in order to plan for the size of his paper for each day. During the past six months it has been almost impossible to know any of these things.

"The men with whom I am associated decided to send me to Canada to see if it is possible to enlarge existing properties with which some of us are already connected, or to create new mills to manufacture wood pulp so that a much larger percentage of our raw material may be secured in Canada. The great difficulty about establishing new mills in Canada with capital from Great Britain," he said, "is the adverse exchange. I hope that some of the Ministers of the Canadian Government at Ottawa will receive me so that I may have an opportunity of discussing

with them some views that prominent men of my group have regarding this matter. There are some suggestions I should like to put forward which would make it possible for capital to be introduced from Great Britain without it having to suffer almost a 25 per cent. loss when the exchange rights itself."

Mr. Hall Caine added that the British Government had long since ceased to interfere with the paper industry, in spite of the fact that the users of paper were in much more severe straits than those in Canada. The price in England for newsprint was around five pence per pound. There has never been any such antagonism between newsprint manufacturers and publishers in Great Britain as seems to have developed in Canada. What really happened was that the paper controller got them interested together and they agreed upon fundamental principles, including the price basis. Since the armistice the Government had not interfered in the matter of newsprint at all, and it seemed strange to him to come over here and find, as far as newsprint was concerned, Canada was still in the midst of war, strange to him to find, as far as newsprint was concerned, Canada was still in the midst of the war.

MESSRS. BENTLEY & JACKSON, LTD.

ANOTHER ORDER FROM CANADA.

We understand that another order for two M.G. paper machines has been placed by the Wayagamack Pulp and Paper Co., Ltd., of Three Rivers, Que., with Messrs. Bentley & Jackson, Ltd., paper mill engineers, of Bury, Lancs. This makes a total of six machines which Messrs. Bentley & Jackson have in hand for the Wayagamack Company, which appears to be determined to rank as one of the most progressive firms in Canada. Kraft paper is the speciality of the firm, their output of which is the largest in the world. The Hodge Sherid Paper Co., of Craven House, Kingsway, W.C.2, are their agents in this country.

TELEPHONE: 6820 CITY.

TELEGRAMS: "PAPER, MANCHESTER."



Pollard St. East, MANCHESTER.

WASTE PAPERS, BAGGING & ROPES.

OUR STRONG POINTS.

PROMPT ATTENTION,

::

RELIABLE GRADING.

CARE AND CLEANLINESS IN SORTING.

SCOTTISH NOTES.

[FROM OUR GLASGOW CORRESPONDENT.]

BUSINESS in the Scottish paper-making trade during the past few weeks has been carried on amid a great many difficulties. Labour of a skilled order is still difficult to procure, and some of the Scottish firms are forced to carry on business with staffs which are by no means adequate when compared with the volume of work on hand. Amidst all the present circumstances and conditions, therefore, it is very much to the credit of the Scottish firms that they are able to show such goodly production, and it certainly speaks well for the loyalty existing between employers and employees.

"Owing to a world shortage of paper and paper-making materials, great difficulty is experienced by newspapers in obtaining supplies. Readers are therefore requested to place a definite order with their newsagents, or otherwise they may be frequently disappointed." Such at the moment is the very familiar form of announcement made by practically all the Scottish daily and weekly newspapers, and I am told that generally speaking, readers have been fairly ready to act upon the advice proffered although, I am afraid, not to the full hundred per cent. limit. During the past few weeks a goodly number of the Scottish newspapers have found it necessary to reduce the number of their pages temporarily, and the difficulty of getting paper is at present reflected in some of the Scottish weekly and monthly trade journals, where proprietors have meantime to rest content with paper of a much thinner texture.

This comparison was made very clear to me in the case of a certain well-known and old-established Scottish trade paper, with the proprietor of which I had the opportunity of chatting the other day. He placed in my hands his latest issue, which I must confess was a very thin and wobbly-looking production, and then he placed in my hands his issue of the previous month—quite an imposing publication. "I am ashamed to put out such a paltry looking number," remarked the proprietor to me, when he endeavoured to drive home the comparison, "but what can I do? I had no alternative but to accept this new consignment of paper or else I would have got nothing, and produced no issue at all this month." I am led to believe that this is by no means an isolated instance, and it is in this respect that trade papers which, to a great extent, depend upon a good appearance, are sufferers more than daily and weekly newspapers.

At a recently-held sitting of the Edinburgh Dean of Guild Court, a petition was presented on behalf of Messrs. John Galloway and Company, Limited, for permission to make important alterations at their well-known Portobello Paper Mills, and I am glad to know that the civic permission was duly forthcoming. Plans for this scheme have been prepared by one of Edinburgh's best-known architects (Mr. A. Lorne Campbell), and I congratulate the House of Galloway on its continued progress and prosperity. The Portobello Paper Mills figure as one of the oldest of their kind in the East of Scotland, and a large number of workers are always kept in steady employment.

After being associated with the paper trade for a lengthy lifetime, Mr. John Simpson—on the completion of fifty years of service with Messrs. J. A. Weir and Company, Limited, paper makers, Kincardine—has retired into private life. Mr. Simpson's relationship with the firm in question has always been of the most happy and harmonious character

and there was deep regret among the principals of the firm at his official severance of such a long connection; but his employers and his fellow workers joined with great warmth in wishing him all health and happiness in the leisure years of his life. For the long period of thirty-eight years Mr. Simpson acted as Clerk and Treasurer for the Tulliallan School Board, but he retired recently when the new Education Act came into being.

Deep regret was recently occasioned among his many friends in the Scottish paper making trade at the death of ex-Provost Charles W. Cowan, who a few years ago retired from the chairmanship of the well-known and old-established firm of Messrs. Alexander Cowan and Sons, Valleyfield Paper Mills, Penicuik. The deceased gentleman, who had attained to the ripe age of eighty-four years, had the wonderful record of having been Provost of Penicuik for the long period of thirty-two years, and I doubt if this record has ever been surpassed by another civic chief in the history of any Scottish burgh. Ex-Provost Cowan was a man of shrewdness as well as affability, and in the affairs of the paper-making trade he always took a deep and active interest.

According to recently-issued minutes by the new Glasgow Education Authority, the matter of a paper contract recently came under the consideration of the members of a particular committee, when I learn that it was "intimated that in the opinion of the officials of the Authority, the paper supplied under one of the contracts was not in accordance with the contract." It was accordingly remitted to the Convener and several other members of the committee to enquire and report into the whole circumstances, and full powers were also given this sub-committee to obtain expert advice. No doubt by the time these jottings appear in print this matter will have been mutually adjusted, but I mention the point in passing just as a little matter of interest.

At the recently-held Scottish Bakers and Grocers' Exhibition, several firms connected with the paper-making trade had attractively-arranged and artistically conceived stands, and in this connection I have to congratulate Messrs. Hancock, Corfield and Waller, Limited (Surrey); Messrs. Peters and Company (Glasgow); Messrs. John Gosheron and Company (London); Messrs. John Thomlinson, Limited (Glasgow); and Messrs. The Globe Box Company (Cheshire) on their respective exhibits. These firms displayed specialities pertaining to the wants of bakers, grocers, confectioners, and allied food traders, and I am glad to say that in each and every instance their stands were always the centre for goodly crowds of interested visitors many of whom, I understand, left behind them substantial orders for execution at the earliest opportunity. This trade exhibition took place in the popular and commodious Kelvin Hall of Industries at Glasgow, and it was generally claimed to be one of the finest trade fairs of its kind ever held on this side of the Border.

Dealing generally with the Glasgow Exhibition stands above enumerated, I may say that Messrs. Hancock, Corfield and Waller exhibited posters, showcards, metal tablets, labels, advertising novelties and decorated tin boxes; Messrs. Peters and Company had a most interesting and educative working exhibit of all their various showcards, tickets, bills, etc.; Messrs. Gosheron were to the fore with their manufacture of J.G. sealing machines and gummed tapes; Messrs. Thomlinson had a display of collapsible boxes, carrier bags, duplicate counter cheque books for the use of shopkeepers, and browns for wrapping; while the Globe Box Company showed fancy boxes of all types

SKIN
GELATINES
 AND
GLUES.

PURE SKIN GELATINES AND SKIN GLUES, FOR PAPER
 COATING AND SIZING.

HIGHEST GRADES.

OURY, MILLAR & Co.,

9, Mincing Lane,

LONDON, E.C.3.

Telephone—4878 Avenue.

Telegram—"Oimenth-Fen, London."

THE
Forth & Clyde Coal Co., Ltd.,

Coal Contractors to H.M. Government,
 Colliery Agents and Exporters, * *

21, HOPE STREET, GLASGOW.

Telegrams:
 "Twentyone, Glasgow."

Telephones:
 2221 Central (3 lines).

EVERY DESCRIPTION OF STEAM COAL AND
 SMALLS FOR PAPER MILLS IN CARGOES OR
 BY RAIL. HOME & FOREIGN MILLS SUPPLIED

for chocolates and confectionery, as well as showcards, catalogues, tickets, and labels of every description.

Here is an interesting little story in which the lucky gentleman was Mr. Daniel McDonald, a fireman employed at the well-known Guardbridge Paper Works. It concerns the finding of a necklace valued at between £500 and £600, which had been lost by a lady. It appears that this necklace was missed in the course of a train journey from Dundee to St. Andrews, and ten days elapsed with a reward of £100 for its recovery being still unclaimed. It therefore seemed as if the necklace was irretrievably lost, but it was quite safe. On the day that it was lost, the costly article was picked up by Mr. McDonald close to St. Andrews. He was walking by the line from Guardbridge to St. Andrews to catch a train, when he saw the necklace lying on the ground; to him it seemed a string of beads, and nothing more, and he thrust it into his pocket, and, not realising its value, he naturally took no immediate steps towards finding an owner for the pretty beads. Then he read in a newspaper the story of the loss, and the circumstances suggested that it might prove to be his "beads."

Accordingly Mr. McDonald immediately took the train to Dundee and shortly afterwards he had the pleasure of finding that the necklace was identified by the hitherto sorrowing but now hugely delighted owner. When the necklace was first lost a certain reward was agreed upon, but a day or two after the company with which the necklace was insured took the matter in hand and offered a reward of £100. The insurance people very promptly arranged to pay the full reward, and the lucky man shortly after received a handsome addition to his worldly wealth. Mr. McDonald is a young man and unmarried, and was cordially congratulated on his good fortune by his fellow-workmen at the paper works.

MR. F. W. VICKERY'S DISTINCTION.

INCLUDED in the recent award of honours for war services rendered is the name of Mr. F. W. Vickery, managing director of Vickery's, Ltd., a personality well known in the paper trade of this country and on the continent. From the very early days of the war Mr. Vickery was closely in touch with the Trench Warfare Department of the Government, and the record of his services is such as to thoroughly warrant the O.B.E. that has been conferred upon him.

Mr. Vickery's activities were principally in connection with fuses for trench warfare work, the importance of which was for long periods paramount in the eyes of the military authorities. He was very intimately associated with the development of the 110 fuse, and the Stokes Pistol Head, but his chief achievements were the redesign of what has become a famous hand grenade, and the "Vickery" All-ways Fuse, No. 147, which displaced the No. 146 Fuse, and is now a standard store of the Army authorities.

Other important work done by him included a grenade packing box, which saved "Tommy" many a back-ache, a holder for fuse igniters, which enormously reduced the percentage of "blinds," rifle and hand grenades, and a safety device for long distance shells, the last-mentioned being brought out at the time the Germans were worrying Paris with long-range fire.

Mr. Vickery's inventive skill has for years found its scope in the paper trade, where his laying machine, automatic loading transporters, feeders, sorters, counters, and other labour-saving devices have a ready market.

FINLAND'S RAW MATERIAL.

The special correspondent of *The Times*, writing from Helsingfors, says:—

"The Finnish industries dependent on wood as their raw material have a more centralized organisation than in any other northern country of Europe. In September, 1918, the Finnish Paper Mill Association, the Finnish Cellulose Union, and the Finnish Wood Pulp and Board Union established a central office (the Amalgamated Paper Industry of Finland).

"In December of the same year a further step was taken toward centralization, when the above-named associations, in combination with the Saw Mill Association, formed the Central Federation of Finnish Wood Refining Industries, in which only the carpentry and cabinet-making industries, veneer and bobbins factories are not as yet represented. The committee of the Federation consists of 16, and the executive board of six representatives of the various associations affiliated to it, and its object is to watch over the common economic interests of the industries as regards proposed legislation and imposts, customs and freight tariffs, and general commercial policy. All sales are effected by the associations and not by any of the separate firms.

"This organisation undoubtedly has been of great assistance in coping with the many adversities arising from the vicissitudes the country has had to go through and from present abnormal trade conditions. The paper industry, especially, has been beset with difficulties. Before the war most of the paper exported went to Russia; thus, in 1913, 84.3 per cent. of the total paper export was sold in Russia. The old stock of paper manufactured for the Russian market was unsuitable for other countries, and it was imperative that new markets should be found and the quality and the format planned out accordingly. The restrictions regarding the paper trade in Great Britain having been abolished in May, the Finnish paper gradually gained a footing on the British market, and by the end of last year some 50 British periodicals were furnished with paper from Finland.

"Wood pulp, card-board, and especially cellulose were not to the same extent restricted to Russian export; in 1913 Russia consumed 25, 28, and 5 per cent. respectively, of the export volume of these articles. But other circumstances hampered the export trade during the first half of the year. The German market was closed by the blockade, and prices were not favourable until the paper famine caused a considerable rise, especially in cellulose; it was also difficult to find the necessary tonnage for shipping. It was not until August that shipping could commence on a larger scale. Thus, during the months of January to July only 4,100 tons of paper, 9,000 tons of wood pulp, and 8,750 tons of cellulose were shipped. In the month of August alone the corresponding figures were 5,500, 12,500, and 12,000 tons. The total export for 1919 is shown in the following table:—

	Metric tons.	Finn. marks.
Paper	46,043	102,597,663
Wood pulp	64,379	30,264,400
Cellulose	73,816	68,745,190
Card-board	15,995	14,546,296
Articles made of paper or card-board... ..	218	1,679,296
Total	200,451	217,831,935

"As regards cellulose, it may be mentioned that the American market has grown remarkably, so that at present the United States forms one of the principal markets for Finnish cellulose."



*Dilute your Slack
with Coke Breeze*

WITH a "Bennis" Stoker on your boiler, you can get steam, and plenty of it, from the cheapest low quality fuels. They have been for years successfully installed in works of every kind all over the world, burning a mixture of slack and coke breeze. We shall be pleased to show you the results of recent tests, or to refer you to works where they are installed. Write first for our catalogues, free for the asking.

ED. BENNIS & CO. LTD., LITTLE HULTON, BOLTON
And 28 Victoria St., Westminster, London, S.W.1.

TORP BRUGS A/S Fredriksstad, Norway



Highest-
Class

PURE KRAFT PAPER M.G. & Unglazed
D/C 16 lbs and up

WIDTH OF (For M.G. 100 ins.
MACHINES (For Unglazed.. .. 100 and 120 ns.

Representatives for

LONDON & EXPORT: Mr. T. V. OLSEN, Lambert House, 10/12, Ludgate Hill, London, E.C.
ENGLAND (except London): Messrs. MAJOR BARLOW & SON, Vulcan House, Ludgate Hill, London, E.C.

AUSTRALIAN NEWS.

Dearer Newspapers.

THE prices of the Sydney *Evening News* and *Sunday News* have been increased from one penny to three-halfpence each.

Windfall for Paper Merchants.

PAPER merchants in Sydney are rejoicing over the arrival of a consignment of paper, a short time ago, which was bought at last year's prices and can be sold at current rates. The paper was carried in the "Bragdo," a Norwegian three-masted sailing vessel which left New York on February 7th, 1919, and came to grief in a storm, being obliged to put into Bermuda to refit. She remained there 253 days, and the cargo was not taken out. Later she proceeded to Sydney. The cargo consisted of large quantities of writing papers, and good quality printing papers and in addition a couple of thousand rolls of newsprint which should be very welcome.

Price of Newsprint.

AT a recent meeting of the Australian Section of the Empire Press Union, reference was made to the enormous increases in the price of newsprint paper, and the extreme difficulty of obtaining supplies. It was stated that many Australian newspapers had already been compelled to increase their selling price, and that others would soon find it impossible to continue at their present prices. In support of this statement, the management of the *Daily News*, the only evening paper in Perth, announced a short time ago that the price of the journal would be increased from one penny to twopence, and that the latter price is simply equivalent to the cost of paper in an eight-page edition.

Australian Wood Pulp.

THE committee of experts which has been studying the question of the production of paper from Australian wood pulp has reported to the Government that the scheme is "practicable as far as can be seen and bound to be profitable." The Government, according to *The Age*, has agreed to finance the undertaking to the extent of £15,000. With the same object in view inquiry is being made with respect to the marine flowering plant known as *Posidonia Australis*, which is found in great quantities on the Australian coast, abounding in South Australia, New South Wales, Western Australia, and Tasmania. Scientific investigation indicates that *posidonia cellulose* is suitable for manufacture of printing paper and lower-grade writing paper. The ultimate fibre resembles that largely used in paper mills, and the electrolytic process of isolating cellulose has been suggested.

Paper Bag Maker's Fortune.

PROBATE has been granted of the will of Mr. Charles Matthews, of Sydney, paper bag manufacturer, who died at Gore Hill, North Sydney, on August 11th last. The estate was valued for probate purposes at £78,613 7s. 11d., Mr. Matthews appointed Marion Matthews, of Gore Hill, and Harold Frederick Kent, of Sydney, solicitor, the trustees and executors of the will. He directed them to carry on the business of paper bag manufacturing and printing, and to float it into a company of 80,000 £1 shares, to be allotted as follows:—One hundred to his brother Albert, 100 to his brother Frederick, 575 shares to certain employees, and the balance to be held in trust for testator's daughter, Gwendoline Lilian, and to be transferred to her upon her attaining the age of 25 years.

Australian Paper Mills Report.

IN their report for the twelve months ended December 31, the directors of the Australian Paper Mills Company,

Ltd., state that considering the serious industrial disturbances which compelled a cessation of work at the mills, the year's business, while slightly less than in 1918, was satisfactory. The net profits for the year were £38,960, to which was added £337 brought forward from the previous year. A dividend in August absorbed £8,204. To the reserve £14,000 has been added. The directors recommend the payment of a further dividend of 1s. a share on the old issue, and of 9d. a share on the new issue, and a bonus of 6d. a share on all the shares of the company. To meet these dividends and bonus £16,746 will be required. A balance of £346 is to be carried forward. It is stated that the construction of the company's new mill at Fairfield might have been completed but for the strike. It is now fairly well advanced, however, and the installation of the machinery will be begun in the next few weeks. It is anticipated that the mill will be in full work before the end of the year. An additional £2,000 was invested in the war loan, making the total £29,000. New shares to the number of 78,883 were issued, making the issued capital of the company £236,425. The directors have, as far as possible, made provision for the future. The trade is assured, and it is stated that if the Government promises of adequate protection are fulfilled the directors can look forward with confidence. Sufficient raw material has been purchased to secure the continuous running of the mills for twelve months. The company's relations with the employees are good, and there has been an extension of welfare work upon mutual lines.

PAPER SHORTAGE AND PAPER WASTE.

IT may not be generally known that of the 10,000,000 tons of house refuse annually collected by Local Authorities that some 350,000 tons of it consists of waste paper. The demand for the latter is increasing (says *Municipal Engineering and Sanitary Record*), but it is for export purposes, and to be re-made into paper. In the meantime the cost of paper made from wood pulp, such as is used for the daily papers, has increased some 600 per cent., whilst better paper, such as is used for this journal, has increased by not less than 300 per cent. It is generally agreed that there is a world shortage of paper because the wood pulp of which it is made is not procurable. Continental paper manufacturers find it profits them to buy waste paper in this country, to bear the cost of freight, and re-make it into paper. It is pertinent to ask why British manufacturers cannot do likewise, and whether it is due to lack of enterprise. For there is no justification for the waste of the enormous weight of paper collected by Local Authorities. It has been alleged, we believe, by the British manufacturer that such paper is dirty, and "mixed." The objection is out of date, for Corporation cleansing departments are conducted on business lines, and adapt their output to the requirements of the market. If the paper manufacturer requires his paper sorted, and makes such an offer as will leave the departments a reasonable margin of profit, they will undertake to supply the paper sorted and graded as required. We have, then, it will be seen, on one side an unparalleled demand for, and exorbitant increase in the cost of, paper. On the other hand Local Authorities have thousands of tons of material for sale which is convertible into paper and is allowed to be wasted. It is pre-eminently a case in which the paper-makers, who know the trade side, should meet the Government Salvage Inspector, who has a practical knowledge of the Municipal side; or if the trade would meet representatives of the Institute of Cleansing Superintendents then much good might accrue to all concerned. We trust the present unsatisfactory position will be shortly terminated.

EBURITE PAPER CO. LTD. AMBERLEY WHARF, PADDINGTON, W. 9.

WAXED PAPERS

„ Pieces
 „ Parchments
 „ Tissues

MANUFACTURERS

CORRUGATED PAPER

„ Boxes
 „ Cartons
 „ Rolls
 „ Pieces
 „ Greaseproof



FANCY PAPERS

Crinkled Papers
 Crepe Papers
 Shelf Papers
 Shavings

EBURITE PAPER CO. LTD. AMBERLEY WHARF, PADDINGTON, W. 9.

TECHNICAL AND ENGINEERING NOTES.

In the course of some notes on "Breaks at the Dryers," a contributor to "La Papeterie" says: (1) Keep the dryers clean. If one of them should become soiled with the loading material, allow it to cool, and increase the heat in the others. The doctor will clean the dirty one. (2) Keep the felts well stretched. Do not leave broke around the felt-dryers or the return rolls, as this would slacken the drying-felt and would cause moist spots in the sheet. (3) When the dryers are not all on the same drive, the tension must be kept regular to avoid creases. The sheet should be neither moist nor too dry. When there is a break the tension should be decreased. (4) If the weight of the paper is too high, owing to excess moisture, this may be detected without weighing by noting the appearance of the vapour rising from the felt of the last set of driers.

EXPERIMENTS, carried out on a large scale, on the digestion of cotton lull fibre in plant employed for the manufacture of soda wood pulp formed the subject of an article in *Paper* by Mr. O. Kress. On account of the spongy nature of the material the circulation of the liquor had to be assisted by an external auxiliary pump and a somewhat high ratio of liquor to fibre (7:1) had to be employed. A maximum steam pressure of 80-85 lb. per sq. in. was used; with 45 lb. steam pressure the disintegration of the hull particles was far from satisfactory. Owing to the high liquor ratio the proportion of caustic soda (3% concentration) used was somewhat excessive, viz., 21-24% of the weight of the charge. The maximum pressure was reached in 4 hours and the digester was kept under 80-85 lb. pressure for a further 4 hours. The dry nature of the stuff caused considerable difficulty in blowing out the charge after digestion in the manner used for wood pulp. The ordinary treatment of soda wood pulp after washing in the diffusers is not suitable for cotton lull pulp owing to the length and "freeness" of the fibre. The hydration of the cellulose developed with considerable difficulty, and the best results would probably be obtained by starting the beating treatment before the washing of the pulp was complete, so that the roll of the washing engine would brush the fibre with considerable pressure while still in the alkaline condition. The removal of the cellular residues of the disintegrated hulls during washing is desirable for the manufacture of strong papers; it is, however, more rational to remove the hull particles themselves as completely as possible by suitable mechanical treatment of the raw fibre before digestion. The paper produced is not so strong as that produced from hard rag stock, but resembles paper from soft "seconds" or "thirds" rags; this, however, is largely a matter of the development of hydration, and the fibre calls for a heavier crushing treatment in the beater without undue reduction in length. The stock is cleaner than that prepared from munition linters, being free from extraneous dirt; with suitable digestion no difficulty is experienced in bleaching economically to a good white colour.

At a recent meeting of the Institution of Mechanical Engineers, Mr. David Brownlie read an abstract of his paper entitled, "Exact Data on the Performance of Mechanical Stokers as applied to Lancashire and Other Narrow-Flued Boilers." Considerable discussion ensued, and the paper met with some criticism at the hands of Mr. Charles Erith, Mr. Alfred W. Bennis, Mr. W. Reavell and others. Mr. Brownlie had made 80 tests covering 299 boilers, five covering 70 Lancashire boilers of comparatively low pressure, and the remaining 75 covering 229 boilers in miscellaneous industries, and Mr. Erith referring to two cases, one of 13 boilers in which gas left

the economiser at 649 degrees Fahr., while, in the other of 16 boilers the figure was 318 degrees Fahr., asked how was the extraordinary difference to be explained—the gas leaving the economiser at double the correct temperature? He stated the discrepancy was attributed to the defects of mechanical stokers. With regard to steam jets, Mr. Erith said there was no excuse for the figures being put in as characteristics of stokers, when the steam jets were taking ten times the steam they should normally take. If there was anything in a plant that was out of order the defect should be put right before the tests were recorded.

Mr. Alfred W. Bennis said that Mr. Brownlie had reflected upon the opinions of the Coal Control Department; that opinion was, however, correct; mechanical stokers did save labour in the stokehole. He took exception to the author's quotation of an efficiency figure of 81.1 per cent. on the Lancashire boilers only, given by a mechanical stoker firm. He (Mr. Bennis) had published such results, but had not stated that it was on boilers only; the figure was quoted for boiler, economiser, and superheater, and it was stated then that every condition relating to the plant was as good as could be. Mr. Bennis submitted a table of 26 tests including a test of 164 hours' duration, giving an average efficiency of 73.7 per cent. and an hourly evaporation of 11,241 lbs. On the question of the flexibility of stokers, Mr. Brownlie had made the mistake of lumping together all classes of mechanical stokers. Obviously some stokers were good for moderate and steady loads and others for heavy and intermittent loads.

Mr. W. Reavell said that probably the average size of the plant dealt with by Mr. Brownlie was not great, but the author had apparently overlooked the fact that the mechanical system of firing lessened the monotony of the firemen's work, and from that point of view alone he (Mr. Reavell) regarded mechanical firing of boilers as a great advantage.

Mr. W. H. Patchell, having strongly dissented from Mr. Brownlie's opinion that mechanical stokers were of no use, Mr. Brownlie briefly replied to the discussion owing to lack of time, and stated that he must adhere to his opinion that mechanical stokers did not in most cases save labour, but he agreed that some collieries had adopted mechanical stokers with good results.

PAPER DETERIORATION IN STORAGE.

THE United States Paper Laboratory of the Bureau of Standards states in connection with the deterioration in the strength of paper after storage: "As a result of tests upon approximately 150 samples of paper, stored since March, 1909, it is noticed that bonds and ledgers containing 100 per cent. rag did not deteriorate in bursting strength as much as printing, writing and similar paper containing wood pulp. The loss in bursting strength for the first class of papers tested was about 11.9 per cent., while the bursting strength of the second class was 20.4 per cent. less than when tested 10 years ago. While these conclusions have been derived from tests on about 150 samples, as noted above, a large number of additional samples will be tested soon and the results studied to determine, if possible, the cause and amount of the deterioration of paper in storage."

NEWSPRINT costing not more than 8 cents a pound would be admitted tax free under a Bill, amending the Revenue Act, passed unanimously by the House of Representatives and sent to the Senate. The present law fixed 5 cents as the limit, but members said that none at that price was obtainable for import. Representative Kitchin, of North Carolina, said that the Bill was an emergency measure, needed to save "hundreds of small papers from ruin."

GENERAL AND FOREIGN NEWS.

THE exportation from Tunis of new cotton rags and woollen rags is prohibited.

THE Latvian Republic is in a position to export paste-board, cardboard and brown parcel paper.

THE Austrian Republic imported 10,928 tons of paper stuff, cardboard, paper and paper goods, during the second half of 1919.

THE articles imported into Batoum from October 1st, 1919, to December 31st, 1919, included 31,387 poods of leather, paper, and furs.

THE exportation from France of woollen rags and new cotton rags is prohibited except under special licence from the Ministry of Finance.

THE Italian Socialist Deputy, Signor Umberto Bianchi, is preparing a Bill for the nationalisation of the paper mills. The Bill will be introduced in the Chamber immediately.

THE deaths are recorded of M. Victor Bos, of the well-known firm of V. Bos et Fils, paper merchants, Grenoble, France, and of M. Charles Matraire, manager of the Lyons branch of Papeteries J. Bajou.

STATIONERY and printed matter can be imported into Lithuania free of duty, but imported clays and rags pay an *ad valorem* duty of 5 per cent. and playing cards 25 per cent. Wrapping paper exported from Lithuania pays an export duty of three marks per kilogram.

THE Cross of a Chevalier of the Legion of Honour has been posthumously awarded to Lieut. Maurice Teillaud, 358th Regiment of Infantry, who was killed on March 1st, 1915, at Chapelotte whilst reconnoitring positions on the flank of his battalion. Formerly a pupil at the French School of Papermaking at Grenoble, Mons. Teillaud was before the war an under-manager at Les Papeteries Navarre, Champ-sur-Drac.

THE paper industry in Belgium showed a marked improvement during the second half of the year 1919. The work of re-instating the factories, which had been destroyed, has been actively pursued, and the production has increased considerably. The export of paper is slowly recommencing, but will not entirely attain its pre-war proportions until such time as the needs of Belgium herself can be satisfied.

THE production of paper yarn in Germany ceased in March, 1919, and this caused at the time a heavy crisis in the over-capitalised young industry. It is now reviving. The demand on the few mills having coal supplies is great and the price for a kilo of spinning paper rose from 4.50 marks in December to 6.75 marks in the beginning of February. The "Sprengstoffkonzerns" is also producing "Stapelfaser" in large quantities.

IMPORTS of paper and cardboard into Argentina during the first nine months of 1919 showed an increase in value of 2,000,000 dols. over a similar period of 1918. One of the principal items contributing to this increase was paper for periodicals, which during the first nine months of 1919 amounted to 35,507 metric tons, against 19,273 metric tons imported during a similar period of 1918. Paper for

stationery and for books was also imported in increased quantities, and the same applies to cardboard, some 4'090 tons of the latter being recorded in 1919, as against 2,434 tons in 1918.

ACCORDING to *Der Papier Fabrikant*, the German paper trade is suffering from a scarcity of everything. Coal is so scarce that the manufacture of cellulose pulp is stopped, and it is impossible to bring it from abroad because of the adverse rate of exchange. The price of timber has increased enormously, and large quantities are lost to the pulp industry, because of its use as fuel. Consequently there is a great scarcity of paper, and manufacturers cannot keep pace with the orders pouring in from the home and foreign markets. Some calendered paper recently exported to Holland undoubtedly had England for its final destination. The price was very high.

THE prohibition on the exportation of the undermentioned goods from the Netherlands has been temporarily raised: Paper, viz., newspaper material, made from wood pulp, in rolls and sheets; hand-made paper and paper for banknotes and securities; paste-board (leather-board, wood-board, grey-board, and other coloured cardboard, gummed or otherwise); packing paper; real parchment paper; sensitised paper for photographic purposes; wall paper; fancy note paper and fancy card-board, envelopes and correspondence cards, commercial and writing books, printed and unprinted envelopes; gummed paper bags; paper wares not otherwise mentioned.

A GENERAL Export Licence, issued by the Swiss Federal Department of Public Economy, and revocable at any time, authorised as from October 10th last the exportation of the following goods from Switzerland without the formality of an individual export licence in each case: Fibrous materials for the manufacture of paper; grey pasteboard, straw and wood pasteboard, leather board, etc.; blotting paper and blotting cardboard, filter paper, whether folded up for filtering or not; tissue paper, weighing 25 grammes or less per square metre; printing and writing paper, letter paper and drawing paper, of one or more colours, not including newsprint paper; cardboard weighing over 200 grammes per square metre; machines for the manufacture and working of paper pulp and paper, for dyeing, for printing on tissues, for bleaching and dressing.

THE paper market in France is characterised by an entire absence of stocks at either mills or merchants, says *La Papeterie*. Mills are refusing new business, and contenting themselves with supplying old customers, whilst the order-books of manufacturers are filled for months ahead. It is only labour difficulties, lack of transport, and scarcity of raw materials which prevent the paper industry from enjoying an era of prosperity hitherto unknown. Newspaper proprietors are approaching the Government to control newsprint manufacturers and limit their profits to 10 per cent. The newsprint manufacturers contend that control would hamper them to such an extent that a large part of the industry would pass into the hands of foreigners, and considerable unemployment ensue. They consider that newspapers should increase their prices and advertisement tariffs.

MESSRS. NENSJÖ CELLULOSE AKTIEBOLAG, Språngsviken, Sweden, have appointed Messrs. Berner and Nielsen, of 57, Gracechurch Street, E.C., their sole agents for the Lancashire and North of England Districts, and for Scotland, for the sale of their Easy Bleaching and Kraft Pulp.

THE MARKETS

(For Wood Pulp Markets see page 626.)

ESPARTO.

Messrs. Ide & Christie's Monthly Circular, dated April 15th, states: A return showing the quantity of Esparto Grass imported into the United Kingdom during the month of February, 1920:—

Date.	Port.	Vessel.	Port whence.	Tons.
Jan. 21	Preston	" Islandia "	Algeria	37
" 30	Leith	" Malabon "	Almeria	510
" 30	Do.	Do.	Do.	500
Feb. 11	Do.	" Graf Shogonoff "	Sfax	1,145
" 11	Do.	Do.	Bona	765
" 12	Liverpool	" City of Cologne "	Algeria	110
Jan. 5	Sunderland	" Roher "	Sfax	8
" 5	Do.	Do.	Do.	12
Feb. 17	London	" City of Rheims "	Bongie	158
" 17	Do.	Do.	Bona	300
" 17	Do.	Do.	Do.	261
" 17	Do.	Do.	Bongie	45
" 17	Do.	" Peronne "	Oran	8
" 17	Glasgow	" Carron Park "	Do.	235
" 14	Bristol	" A. E. Annis "	Almeria	293
" 13	Do.	Do.	Aguilas	204
" 23	Grangemouth	" Harvestelude "	Oran	1,000
1919.				
Dec. 24	Sunderland	" Alexandria "	Aguilas	34
1920.				
Jan. 12	Glasgow	" Baron Kellier "	Do.	500

CURRENT PRICES F.O.B. SHIPPING PORTS.

	£	s.	d.	£	s.	d.	
Oran, fair to good	12	0	0	to	14	0	0 per ton
first quality	12	0	0	"	14	0	0 "
Bona & Philippeville, gl. av	12	0	0	"	14	0	0 "
first quality	12	0	0	"	14	0	0 "
Sfax and Gabes	12	0	0	"	14	0	0 "
Tripoli, fair to good	12	0	0	"	14	0	0 "
hand-picked	12	0	0	"	14	0	0 "

HOME RAGS.

LONDON.—All goods continue to be in demand and prices remain firm at about last month's figures.

Fines (selected)	..	..	per cwt.	46s. od.	to	50	0
Outshots (selected)	..	..	"	34s. od.	"	36	0
Seconds (selected)	..	..	"	28s. od.	"	30	0
Seconds (country)	..	..	"	17s. od.	"	19	0
Thirds ..	..	..	"	—	"	8	0
Pfints (old)	..	..	"	—	"	16	0
" dark	..	..	"	—	"	8	0
No. 1, Canvas ..	..	..	"	40s. od.	"	44	0
" 2, " ..	..	..	"	30s. od.	"	34	0
" 3, " ..	..	..	"	16s. od.	"	20	0
Common Jute Rope	..	..	"	14s. od.	"	16	6
Clean Gunny ..	..	..	"	12s. od.	"	14	0

EDINBURGH.—The market continues very firm, and especially so with regard to waste papers, prices having advanced considerably and stocks being almost entirely exhausted.

FOREIGN RAGS.

LONDON.—Prices remain practically unchanged.

No.	White Linens	per cwt.	£3	5	0	to	£4	0	0
" 2	"	"	2	10	0	"	3	0	0
" 3	White Linens	"	2	0	0	"	2	10	0
" 1	White Cottons	"	2	10	0	"	2	15	0
" 2	White Cottons	"	2	5	0	"	2	10	0
" 3	"	"	1	10	0	to	1	15	0
Old Grey Linens	"	per cwt.	3	5	0	"	"	"	"
Coloured Cottons	"	"	1	6	0	"	"	"	"
Housecloths	"	"	0	18	0	"	"	"	"

CHEMICALS.

A steady demand has been experienced during the month, but supplies are inadequate.

Alum, best lump, in tierces F.O.B., at makers' works	ton	£17	10	0
Do., ground in bags	"	18	0	0
Alumina, Sulphate of, 14 per cent.	"	17	0	0
Bicarbonate of Soda, F.O.R.	£9	to 11	0	0
Ammonia Alkali	£7	to 7	10	0
Bleaching Powder, 35 per cent., carriage paid	"	19	0	0
Caustic Soda, white, 70 per cent. (net), carriage paid	£23	to 29	0	0
Caustic Soda, white, 60 per cent. (net), carriage paid	£22	to 28	0	0
Soda, Crystals, bags (delivered)	"	5	10	0
Potash Bichromate	lb.	0	1	6
Potash, Yellow Prussiate	"	0	2	3
Soda Bichromate	"	0	0	11
" Prussiate	"	0	0	9½
Sulphur (Rock Brimstone)	ton	25	0	0
" (Flowers)	"	24	0	0
" (Roll Brimstone)	"	23	0	0
White Lead (English)	"	100	0	0
Chlorate of Potash, in kegs, F.O.B.	1s. lb.	to 0	1	3
" Soda	"	0	0	6

MINERALS, ETC.

A noticeable advance in the price of several items is to be reported.

Ochres, English and Irish	..	..	ton	£11	10	0*
Umbers (Brown and Green Shade)	..	..	"	10	0	0
Reds, Venetian	..	..	"	10	10	0
" Turkey	..	..	"	62	10	0
*Other prices according to shade, quantity, and quality.						
Black, Mineral	..	..	ton	£8	10	0
" Carbon (pure)	..	..	"	195	0	0
Pulp, Black	..	..	"	32	0	0
Brown, Soluble (Crystals)	..	..	"	28	0	0
" (Pulp)	..	..	"	11	10	0
Yellow, Imperial	..	..	cwt.	1	12	0
Blue Paste (pure)	..	..	"	24	0	0
Yellows, Lemon, Orange (pure)	..	..	"	4	10	0
Mineral White, Superior No. 1	..	..	ton	3	1	0
" " " " 2	..	..	"	2	0	0
" " " " 3	..	..	"	1	8	6
Barytes, Best White	..	..	"	15	0	0

All F.O.R. Makers' Works, net.

China Clay of various qualities for all purposes; prices from 35s. to about 75s. per ton f.o.b. Cornwall.

SIZING MATERIALS.

Fine Skin Glue	..	..	cwt.	£8	10	0	to	£10	0	0
Common Glue	..	..	"	£7	10	0	"	"	"	"

There is a good export demand for Glue, which, with a Home Trade quite brisk, rather tends to harden values.

ROSIN.

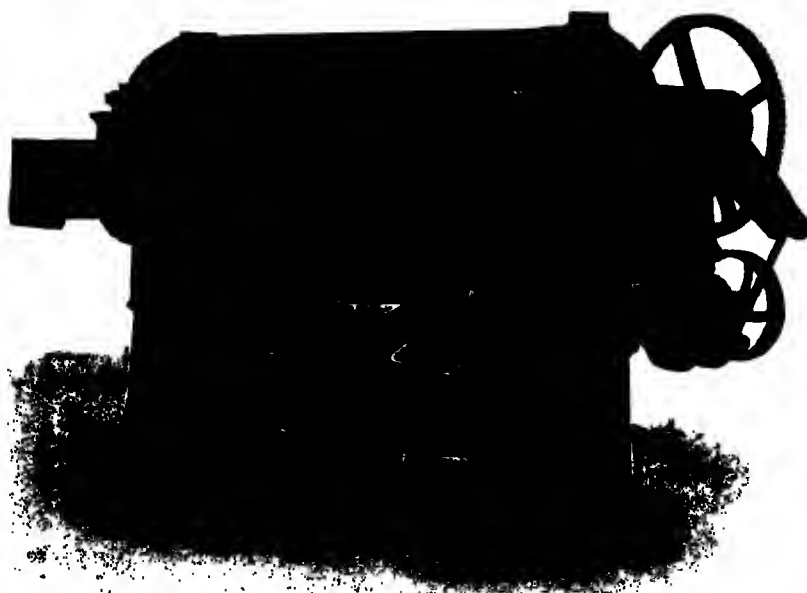
The Rosin market owing to the more favourable Exchange is rather easier for forward positions and, although spot prices remain nominally unaltered, there is rather more disposition to sell. Signs are, however, not lacking that there will be a big demand for low grade Rosins this season and, if the present forecasts of a rather lower production prove correct, it would appear that higher prices are by no means unlikely as the season advances.

Present quotations are:—American B., 58s. per cwt., American F., 63s. 6d. per cwt., American G., 64s. per cwt.

JAMES BERTRAM & SON, Ltd.,

Leith Walk,
EDINBURGH.

Speciality :
PAPERMAKING MACHINERY.



OUR PATENT ROTARY DRUM STRAINER

is the best apparatus now at work. It is absolutely noiseless, works in oil, and needs no attention and few repairs. Stroke can be regulated while at work. Over 200 now running with great success.

Telegrams : "BERTRAM, LEITH."

Telephone : No. 521, LEITH.

FINANCE.

Stock markets, generally, are showing an undecided tendency, the dullness being attributed to dearer money fears. Paper shares continue to be in demand and in some instances are keenly sought after.

Electro-Bleach & By-Products, Ltd., have declared further interim dividends on account of year 1919 of 3½ per cent. (less tax) on Preference (making with interim dividend paid in September last a total for year of 7 per cent.), and of 7½ per cent. (less tax) on Ordinary (making with interim dividend paid in December last a total for year of 1½ per cent.); both dividends to be paid on April 23 to shareholders registered on March 27.

The directors of English China Clays, Ltd., report for the year ending December 31, 1919, that profits on the trading have amounted to £74,980, out of which has been paid or provided interest to vendors £43,742, leaving a balance of £31,238, which directors recommend should be applied as follows: Dividend at 7 p.c. p.a. on Preference from dates of allotment to December 31, 1919; dividend at 5 p.c. p.a. on Ordinary from dates of allotment to December 31, 1919; in writing off one-third of preliminary expenses, £6,384; transfer to general reserve, £5,000; leaving a balance to carry forward of £2,941.

The report of Sanderson Brothers and Newbould states that, after providing for excess-profits duty, tax and interest on debenture loans, profit for year ended December, 1919, is £32,902. Adding to it balance from last year, £34,978, there remains a disposable amount of £67,880. A dividend of 5 per cent. has already been paid on preference, and an interim dividend of 5 per cent. on ordinary. It is now proposed to pay an additional dividend of 5 per cent. on ordinary (making 10 per cent. for year), and a bonus of 5s. on each ordinary, both less tax. An amount of £30,982 will be available for increase of reserve fund, and £40,49 1½s. will remain to be carried forward.

The directors of Charles Morgan & Co., Ltd., report for year ended December 31, 1919, that trading commenced on August 19, 1919, and as from this date to December 31, 1919, after providing for excess-profits duty, accounts show a net profit of £10,209. Profits of Charles Morgan & Company as from January 1 to August 18, 1919, were included in purchase consideration paid to vendor and these profits, less appropriate amount of taxes and payments to vendor for interest and salary, amounted to £11,658, and are transferred to reserve account. Directors propose that profit as from August 19 to December 31, 1919, should be dealt with as follows: Dividend equivalent to rate of 15 per cent. per annum on share capital, balance to carry forward £4,106.

An excellent report for the past year is made by Cassell & Co., Ltd. The net profits, after provision for depreciation and debenture interest, were £53,300, against £46,400 for 1918 and £21,200 for 1917. The report stated that "this satisfactory result is not due to any adventitious circumstance. The improvement is an all-round one in which every department shares." The dividend of 8 p.c., less tax, compared with 6 p.c. for 1918 and 3 p.c. for 1917 and 1916. At the present price of 8½ ex div. for the £10 shares the yield is 9½ 13s. 11d. p.c. The dividend of 8 p.c. paid for the past year absorbed only about three-fifths of the profits available. Sums amounting to £20,000 were allocated to various forms of reserve and the carry forward at £8,800 was about £1,500 larger.

The directors of the United Alkali Co., Ltd., report shows that for two years ended December 31, 1918, after providing for an estimated tax and excess profits duty up to December 31, 1918, and after transfer for two years of £30,000 to Debenture redemption fund account, there is a profit of £735,612; add amount brought forward from 1916, £23,529; total at credit of profit and loss account, £759,141, which has been dealt with as follows:—Transfer to general reserve fund account (making total £400,000); £100,000; transfer to special reserve account, £150,000; dividends paid for year 1917, after deduction of tax, on Preference, at 7 p.c. p.a., on Ordinary at 3s. per share; for year 1918, after deduction of tax, on Preference at 7 p.c. p.a., on Ordinary at 3s. per share, leaving amount carried forward to 1919, £88,282. Directors regret they are not yet able to submit any statement to December 31, 1919. They are, nevertheless, satisfied that result of year's trading to December 31, 1919, is such that payment of following dividends is justified, viz.:—On £10 Preference, a dividend of 7s. per share, less tax, making, with interim dividend paid in September last, a dividend of 7 p.c. p.a., less tax, and on £1 Ordinary a dividend of 2s. per share, less tax, making, with interim dividend paid in September last, a dividend of 3s. per share for 1919, less tax.

Amount of Shares.	Paid.	Company.	Last Dividend.	Mean Price and Quotations.
1	1	Amalgamated Press 5% c.p.	5	14/0
1	1	Annandale & Son, ordy.	7½	21/0
5	5	Do. pref.	5	73/11
1	1	Associated Newspapers, ordy.	7	17/3
1	1	Becker & Co., Ltd. ..	15	33/6
1	1	Brunner, Mond & Co. ..	2/6	39/0
7	10	Do. 7% cum. pref.	7	11
7	7	Bury Paper Co., Ltd., ordy.	15	13½
5	5	Burnley Paper Co., Ltd. ..	20/	14 19
1	1	Castner-Kellner Alkali ..	4½	80/0
10	10	Cassell & Co. ..	8	7½
1	1	Darwen Paper Co., Ltd., "C."	7½	42/6
1	1	Dickinson (J.) & Co., Ltd. ordy.	5	31/0
Stk.	100	Do. 5% cum. pref.	5	70
Stk.	100	Do. 4½% 1 Mt. Db. Rd., all pd.	—	67
10	10	East Lancashire Paper Co.	10	19-20
10	10	Do. 6% pref.	10 & 5	22
5	5	Do. bonus	5	5-5½
1	1	Electro Bleach & By Products Co. 7% pref.	7	23/3
5	5	Gnardbridge Paper Co., Ltd.	12/6	10-10½
Stk.	100	Levinstein 4½ def. ..	—	91½
1	1	Lloyd (Ed.) 5½% cum. pref.	5½	15/0
1	1	Marsden (Chas.) & Sons ord.	9	30/0
1	1	Do. 7½% part. pref.	9	21/6-22/0
1	1	Newnes (George) ord.	15	15/3
1	1	North of Ireland Paper Co.	12½ & 5	3
10	10	Olive Bros., ..	12½ & 5	11-12
10	8	Do. fully paid	5	9½
5	4	Do. pref.	10	5½
5	5	Olive & Panton 5% pref.	5	3½-4
1	1	Owen (T.) & Co. 6% pref.	6	15/6
1	1	Do. ordy.	20	30/0
5	5	Pearson (C.A.) 5½% cum. pref.	—	75/0
5	5	Peebles (A. M.) & Son ..	5 & 4	5½
5	5	Do. cum. pref.	5	60/0
Stk.	5	Do. 5½% debts.	5½	92
5	100	Ramsbottom Paper ordy.	25	19/6
1	3	Do. 5% pref.	—	20/9
Stk.	1	Reed (A. E.) 4½% 1st mort. deb. red.	4½	65
1	1	Reed (A. E.) 5½% cum. pref.	5½	14/0-15/7½
5	4½	Roach Bridge Paper Co. ..	10	5½-6½
4	4	Salt Union ordy. ..	3/0	25/9
6	6	Do. 7% cum. pref.	3/0	22/0
Stk.	100	Do. 1st mort. debts.	4½	72
Stk.	100	Do. "B" do.	4½	66
10	10	Spicer Bros., 5% cum. pref.	5	7
5	5	St. Neots Paper Mill Co., Ltd.	15/0	7½
5	5	Star Paper Mill Co., Ltd. (Feniscoles) ordy.	20	12
5	3	Do. 10% cum. pref.	10	4½
Stk.	100	Do. 4½% debts.	4½	80
10	10	Townsend Hook & Co., Ltd.	7	8½
1	1	United Alkali Co., Ltd., ord.	4/0	31/6
10	10	Do. 7% cum. pref.	7/0	9½
Stk.	100	Do. 5% mort. debts.	5	80½
10	10	Waterlow & Sons ..	—	—
10	10	Do. 6½% non-cum. pref. ord.	5/0	9½
10	10	Do. 4% cum. pref.	4/6	5½
10	10	Waterlow Bros. & Layton ord.	17½	7
10	10	Do. pref.	50/0-7	6½
1	1	Wall Paper ordy. ..	10	21/7½
1	1	Do. 5% cum. pref.	5	14/9-15/0
1	1	Wall Paper def.	5	22/0
1	5	Wiggins Teape & Co. ord.	—	28/0
1	5	Do. 7% pref.	—	19/3

CODES.—A.B.C. 5th & 6th Edition. A.1. Western Union. Marconi. Watkins. Benteleys. Private.

Telephone No.: City 7341
(5 lines)

Telegram: ODONTOID CENT LONDON

BECKER & CO., LIMITED,

34-40, Ludgate Hill, London, E.C.

And at MANCHESTER, PARIS, NEW YORK,
HALIFAX, N.S., CHRISTIANIA, STOCKHOLM, ETC.

THE LARGEST IMPORTERS OF WOOD PULP

AGENTS FOR

CHICOUTIMI PULP CO., Chicoutimi, Canadian
Hot Ground Spruce.
HA! HA! BAY SULPHITE CO., LTD. Port
Alfred, Quebec.
ST. LAWRENCE PULP & LUMBER CO., Gaspé,
Canada. High-Grade Sulphite Pulp.
RIORDON PULP & PAPER CO., Montreal.
Easy Bleaching Canadian Sulphite Pulp.

SISSIBOO PULP & POWER CO., LTD., Weymouth
Falls, N.S.
CLYDE RIVER PULP & PAPER CO., Clyde
River, N.S.
FORSMARK BRUK, Forsmark. Easy Bleaching
Soda Pulp.
SUNDS AKTIEBOLAG, Sundsvall.

AGENTS FOR EUROPE

FOR CROWN WILLIAMETTE SULPHITE CO., LTD., U.S.A.

THE Wood Pulp Maker.

Specially Representing the Interests of the Cellulose and
Wood Pulp Industry.

VOL. LIX. NO. 5.

MAY 1, 1920.

[ALL RIGHTS RESERVED.]

THE FUTURE OF THE SWEDISH PULP TRADE.

MR. STORJOHANN DOES NOT FEAR COMPETITION.

MR. CHRISTIAN STORJOHANN, president of the Swedish Pulp Association, and Baron Mannerheim, president of the Lumber Export Association, have been visiting the United States and Canada, studying conditions in the pulp industry. Whilst in New York they were the guests at a luncheon of the Swedish Chamber of Commerce of the United States.

Responding to the toast of his health, Mr. Christian Storjohann said that Baron Mannerheim and himself had been sent to America to try and get into closer touch with the American and Canadian Paper and Pulp Associations. In Sweden for many years they had had the Swedish Chemical Pulp Association and the Mechanical Pulp Association, but associations in Sweden had for their chief purpose the compilation of statistics. In the United States there was a great association called the Wood Pulp and Paper Association with several subordinate associations dealing with wrapping paper, bag paper and so on. All the chairmen of the subordinate associations were members of the Board of Directors of the principal association. When he returned to Sweden he hoped to get the Swedish Associations to work in the same way. He had been to Canada and had seen how the Canadian pulp industry was growing stronger year by year. Canada formerly produced annually about 250,000 tons of wood pulp and was now producing between 600,000 and 700,000 tons. So it could be well understood that Canada would one day be a very big competitor with Sweden. In Sweden they had been afraid that one day Canada would take the best market in the world from them. Now he thought that there was nothing to fear from Canada because the demand for pulp and paper was so enormous. There was a scarcity of pulp and paper all over the world to-day and prices were still going higher and higher. Everything that they made was consumed immediately. In pre-war days Germany used to produce between 800,000 and 900,000 tons a year, but Germany was now out of the question as regards production for many years to come. Germany produced before the war about 180,000,000 tons of coal. The production to-day was about 90,000,000, and of this 90,000,000 the Entente expected to receive 30,000,000, so that there was only 60,000,000 tons of coal left. Conditions were pretty bad at present in Germany, and Sweden had no fear as to competition from Germany for three or four years. Finland had been rather a strong competitor as she had a comparatively big production. Before the war Finland sent most of her pulp and paper to Russia,

but as there was no connection at the present time between Finland and Russia they had to be sent to other countries. When things were settled in Russia Finland would have to go back to that market and Sweden would have little to fear from her. They had good forests in Sweden which were treated in the right way, and he thought they were about 50 or 60 years ahead of Canada and the States in that respect. In Sweden they never took more out of the forests than the annual growth.

Referring to the quality of Swedish pulp, Mr. Storjohann said: "There is no question that the States and Canada can make the same quality pulp as the Swedes can make, but up to this day I don't think they have quite succeeded in doing it. I think we have a little better quality, but we have to be very careful because they are working very hard to get the right quality, and plenty of Scandinavian machinists and other clever people are coming over here to teach them. Some day I think there will be a close fight as to who produces the best quality pulp."

Baron C. J. Mannerheim said the pulp industry in the States was very similar to that in Sweden. The pulp and lumber industry had developed very fast in Sweden within the last 50 years, and he realised that quite the same thing had happened in America. Of course, the war had hindered the industry in Sweden. When the war broke out they had very big stocks and were very anxious to look into the future and see how they could sell them. Now they were looking at the situation in quite another way and could see that there was a shortage in the world. The reason why Mr. Storjohann and himself were there in America was to get into closer touch with the American Pulp and Paper Association, as he thought that collaboration in the industry would be very good, not only for the industry, but also for the people who consumed its products.

At Blackburn, on the 14th ult., James Parkinson, labourer, claimed compensation from the Star Paper Mill Co., Feniscowles, regarding an injury to his eye. Mr. Backhouse stated that applicant was engaged as a size mixer and presser at the Star Paper Mill. He was struck in the right eye by the hoop of a barrel, and practically lost the sight of the eye. He was unable to follow his employment for 10 months. It was argued that the man's condition was not due to the accident and the Judge agreed that he ought to be able to follow light work. Compensation was fixed at 18s. per week.

BRITISH PAPER STOCK MERCHANTS' ASSOCIATION.

ANNUAL GENERAL MEETING.

THERE was a very representative gathering of members from all over the country at the annual general meeting of the British Paper Stock Merchants' Association, Ltd. Mr. Walter Hyman, president, occupied the chair.

Outlining the work of the Association during the past year, the Chairman stated that Mr. Watson and he, as representatives of the Association, had attended a meeting of the National Confederation of Employers' Organisations. This Confederation was going to become a very powerful one, as it would link up all the principal employers' associations, and so make a more united front when dealing with labour questions. The committee had gone fully into the question of the classification of rags, at the request of the Papermakers' Association, but it had been decided to drop the matter. With regard to the new increases in railway rates, the question of the difference in charges made to papermakers as compared with goods consigned direct to merchants, and also the charging of different rates for high-class rags, as compared with common rags, was being dealt with by the solicitors to the Association. Referring to the Trade Boards Act, the Chairman explained that this matter was not any further forward, and that the delegates had not yet been appointed. Miss Fairbanks, M.B.E., representing the Ministry of Labour, had attended a previous meeting and explained the position at the present time, but could give no definite information as to when the Trade Board would be set up. Nothing definite was obtained from Miss Fairbanks' attendance, although he had impressed upon her the necessity of at least four members being the minimum representation from their Association.

The accounts for the past year were duly approved, the amount standing to the credit of the ordinary account being £262 1s. 2d., and the stability account £5,527 3s.

The meeting then proceeded to the election of office-bearers, and the following gentlemen were elected: President, Mr. W. Hyman; Treasurer, Mr. H. Hyman; Hon. Secretaries, Messrs. J. M. Watson and E. S. Lendrum; Secretary, Mr. H. T. Bloor; Executive Committee: Messrs. H. Austin, G. Chadwick, J. Easson, G. G. Jacobs, and J. Warburton. Auditors: Messrs. Wm. F. Smart, Son, and Bloor.

BUSINESS AT THE BRITISH INDUSTRIES FAIR.

ALTHOUGH at present it is impossible to give any exact figures as to the amount of business transacted at the London section of the British Industries Fair, held at the Crystal Palace, there is every reason to think that the amount of ten millions mentioned by Sir Hamar Greenwood in the House of Commons is a safe estimate. Many firms have informed the Department of Overseas Trade that their turnover of business was three times that done at previous Fairs.

There was a satisfactory attendance by overseas buyers, the greatest number coming from Norway, other nationalities being in the following order: France, Holland, Canada, Australia, United States, Spain, Switzerland, India, Sweden, Denmark. The foreign buyers as a whole expressed strong approval of the Fair, and consequently it is safe to anticipate that on their return to the 59 different countries from which they came, their reports will help to advertise the Fair in future. The total number of persons passing the turnstiles was 89,705 during the eleven days of the Fair. The exhibitors amounted in number to 1,158, of whom 21 exhibited paper, 160 stationery, and 32 printing.

THE MILL THAT WAS NEVER BUILT.

A GERMAN'S CLEVER FRAUD IN CANADA.

MANY business men in this country are reluctant to do business with Germans. At the present moment there are forty-seven contractors in Canada and the United States who will be very careful how they do business with Germans in future, and may possibly consider intercourse with members of that nationality as a luxury they cannot afford, the reason being that a good-humoured and well-dressed German of smart appearance, named Sande, has recently disappeared in Canada, taking with him \$117,500 belonging to the forty-seven contractors.

Mr. Sande's methods of making money were certainly unique, if dishonest. He was well known in Hamilton, although a stranger in Montreal, and also in the United States, but he succeeded in gaining the confidence of the Bradstreet & Dunn commercial agencies, stating that he was a member of the Society of Building Engineers and several other well-known technical societies. He sent letters to hundreds of Canadian and American contractors inviting them to tender for a contract to build a pulp and paper mill and a model town at New Richmond, Baie des Chaleurs, in the Province of Quebec, at a contract valuation of \$4,000,000. Plans and specifications were at the disposal of all who sent in tenders. A cheque for \$2,500 had to accompany each tender as a proof of good faith.

The offer seemed very tempting, immediately attracting the attention of forty-seven Canadian and American contractors. They made enquiries and were informed by Mr. Sande that the company was not as yet formed, but Mr. A. J. H. Erhardt, a rich business man of Toronto, was one of the financial backers of the enterprise. Further, they sought information from the Bradstreet & Dunn commercial agencies. From what they learned they came to the conclusion that the proposition was sound, and immediately forwarded their tenders, with accompanying cheque for \$2,500. Shortly afterwards each one of the forty-seven contractors are stated to have received an autograph letter from Mr. Sande, dated from Hamilton, Ontario, asking them to meet him at the Windsor Hotel, at Montreal, to sign the necessary papers. The resultant scene would have made an excellent subject for a film comedy. Each one of the forty-seven contractors duly arrived at the hotel, and was not at all pleased to find forty-six of his business competitors in the same building. Quite naturally none of them desired to tell their business, so that after greeting each other very coolly they walked about the hotel, trying to avoid one another, and glaring rather savagely when any of them chanced to meet. Several monotonous hours passed in this way, until finally one by one they inquired at the office for Mr. Sande and were told there was no such guest in the hotel.

A spirit of comradeship in misfortune then moved the forty-seven contractors to exchange confidences, and they discovered that they were all there on the same errand, and that all were equally duped and defrauded. A consultation followed, at which the victims agreed to keep the matter quiet and lose no time in having the machinery of the law put in motion to apprehend Mr. Sande. Subsequent inquiries are reported to have brought to light the fact that cheques received by Mr. Sande were deposited in the Bank of Hamilton and later the full amount withdrawn. His correspondence has been intercepted without giving a clue to his whereabouts. It is believed by most of the contractors that there was a real project on foot to build a pulp and paper mill at New Richmond, but that at the last moment monetary interests behind Mr. Sande backed down. As he had gone to considerable expense in his work of promotion he probably took this method to recover his losses.

TWENTY-FOUR YEARS AGO.

'JOTTINGS FROM "THE PAPER MAKER," MAY 30th, 1896.

Messrs. Bertrams, Ltd., of Sciennes, Edinburgh, are shipping some more paper-making machinery to the Titigaur Paper Mills, Calcutta.

Mr. Henry Spicer, of the well-known firm of paper-makers in New Bridge Street, has recently been elected treasurer of the Congregational Fund Board.

Small-pox has broken out at High Wycombe. It is alleged to have originated among the employees at a local paper mill, through rags supposed to have been received from Gloucester.

The Guardbridge Paper Co., Ltd., Guardbridge, N.B., have placed an order with Bertrams, Ltd., Edinburgh, for a fine new 103-inch paper-making machine fitted with all latest improvements.

On the 4th inst., Mr. E. J. Bevan (Messrs. Cross and Bevan) read a short paper upon "Artificial Silk" before the London section of the Society of Chemical Industry at Burlington House.

The Paper Makers' Association of Great Britain has asked Mr. Chaplin to receive a deputation on the subject of river pollution, etc. At present there is no fixed standard of purity for paper-makers to adhere to in regard to the effluent from mills.

Mr. Povey, on the occasion of leaving Riverside Paper Mills, Dartford, to take a position as foreman at McMurray's Royal Paper Mills, Wandsworth, was presented with a writing desk subscribed for by his fellow workmen, who wished to take the opportunity of testifying their respect and esteem.

We understand that Mr. D'Oyley Mears is leaving next week for South Norway, for the purpose of examining and reporting upon pulpwood forests, large waterfalls, and the site generally, with the object of ultimately erecting mechanical and chemical wood pulp works, as well as a paper mill, upon a somewhat extensive scale.

With reference to the formation of J. A. Weir, Ltd., we learn that all the shares have been taken up, and are now standing at a premium of £1. One or two points in connection with the formation that call for attention place the matter in a rather more favourable light. We learn that Mr. Weir handed over to the company £20,000 in cash; that the company gets all profits from September last to date of formation, a sum which is estimated at not under £5,000; that after paying the dividend on the preference shares, 10 per cent. of the profit is annually to be set aside for the benefit of the preference shareholders until it reaches £10,000, at which sum it is to be maintained, and, finally, that Mr. Weir had paid all costs of the formation and transference.

On the 14th inst., the Ekman Pulp & Paper Co., Ltd., of Northfleet, made an issue of £130,000 first mortgage debentures of £100 each, bearing interest at 4½ per cent. These have been issued for the conversion or redemption of the outstanding debentures and debenture stock of the company, which amount to £112,500, and also with the additional object of providing further working capital. The profit and loss account for the last five years has shown a steadily increasing balance on the right side. The company are not merely paper-makers, but are also makers of wood pulp by the sulphite process, which is

carried on at their principal works at Northfleet, Kent. They also have a smaller paper-making works at Ilford. It is interesting to note that within the profit last year is shown by the profit and loss account to have been close on £23,000, the interest on the present issue of debentures calls for about one-fourth of this sum, or £6,000. Power has been reserved to further issue £20,000 of debentures, which shall rank with the present issue, but this can only be done for providing funds for expenditure on capital account, and with the consent of the trustees.

PULP SITUATION IN BELGIUM.

CANADIAN SUPPLIES WANTED.

THE Agent-General of the Province of Quebec in Belgium recently stated that Belgium consumes 120,000 tons of paper pulp a year, and practically none of it is coming from Canada, the principal supplies being received from Sweden and Norway.

The Ministère des Affaires Economiques is anxious to bring the situation to the knowledge of Canadian manufacturers in the hope that they may be able to supply Belgium with pulp. A complete series of samples supplied by the Belgian Departments of Affaires Economiques, made up of all kinds of pulp supplied by the Scandinavian firms and showing the origin and price of each one, can be seen now in Quebec city at the Parliament building.

The Belgian Government has secured the help and experience of M. Henrotte, technical manager of l'Union des Papeteries, with the seven mills under his control, to make experiments with Canadian pulp and to have the results published; the only condition is that he should have at least 10,000 tons of pulp for the purposes of experiment. The present state of the pulp market is known, and it is only later and gradually that the Belgian Government hopes to achieve the end in view.

CANADIAN PAPER INDUSTRY.

NEW DEVELOPMENTS.

MR. F. W. FIELD, H.M. Trade Commissioner in Toronto, reports that a charter has been taken out by Machinery and Foundries, Ltd., which has been incorporated with a capital of 250,000 dols., to manufacture castings for pulp and paper machinery. This company proposes to establish itself in Brockville, Ontario.

The International Paper Company interests have taken over the pulp and paper plant of the Aroostook Pulp and Paper Company, at Keegan, on the St. John River, a short distance above Grand Falls, New Brunswick, from the company headed by A. R. Gould, of Presque Isle, Maine, former president of the St. John Valley Railway. The transfer, which has just been made to the American Realty Company, a subsidiary of the International Paper Company, includes, in addition to the pulp and paper mill, the holding grounds and shore rights of the company along the St. John River, on which the mill is located at Keegan, just west of the sorting booms at Van Buren, where there are large lumber mills also on the American side of the river. It is anticipated that large additions will be made to the present plant, and it is reported that these will include a mill for the manufacture of Kraft paper.

The Sydney Rubber Roofing Company will shortly erect a plant at Victoria, British Columbia, at a cost of 200,000 dols., to manufacture roofing felt, building paper, and heavy wrapping paper. The roofing felt and building paper will be made from rags, waste paper and screenings from the paper mills. It is expected that fifty per cent. of the raw material will be obtained from British Columbia and that the output will amount to twenty tons a day.

THE WOOD PULP MARKETS

CHEMICAL.

LONDON.—Prices of chemical pulp continue to soar and the situation in the market is rapidly becoming serious. The demand is such that there is some difficulty in keeping pace with quotations. Bleached sulphite is quoted at £75, and the better grades of easy bleaching have advanced to about £60, while strong is quoted at figures around £52 c.i.f.

MECHANICAL.

LONDON.—The mechanical pulp market continues firm. Moist mechanical is quoted at £18 to £19, and dry at about £38 per ton c.i.f. for prompt. Considerable forward buying is stated to have been effected.

CHEMICAL.

MANCHESTER.—Our Manchester correspondent has much to say with regard to this market, and states that there is no indication of a stop in the upward trend of prices.

MECHANICAL.

MANCHESTER.—A steady market at about £17 per ton for "moist" f.o.b. Norway is reported, and available supplies are meeting with a fairly quick sale.

CHEMICAL.

NEW YORK.—The tone of the chemical pulp market continues firm, with a strong demand. Domestic producers are finding some difficulty in obtaining raw materials, and imports of Scandinavian pulp have been on a comparatively small scale. Kraft pulp has considerably advanced in price, the scarcity of supplies being given as the chief reason. One authority states that bleached sulphite is being bought, chiefly by manufacturers of artificial silk, at 16 cents and more a pound.

MECHANICAL.

NEW YORK.—Mechanical pulp is reported to be so scarce that current prices are more or less nominal.

Various prices are quoted in different quarters. Some sales are stated to have been effected at \$100 a ton, and \$70 is merely a nominal market quotation.

CHEMICAL.

GOTHENBURG.—The market for chemical pulp continues to be firm for all grades, and prices show a further advance. Easy bleaching sulphite is quoted up to krs. 1,250 and strong at krs. 1,050. A similar story is to be told of soda pulps, easy bleaching, which was last month quoted at 750 krs., now reaching well over krs. 1,000, while kraft has advanced to about krs. 850.

MECHANICAL.

GOTHENBURG.—The situation in the mechanical pulp market has undergone little change. The demand continues to be strong, but the supplies of moist mechanical are still extremely short with prices firm at about krs. 325. Dry mechanical is in quiet demand, quotations being up to about krs. 650.

CHEMICAL.

CHRISTIANIA.—This market continues to exhibit a firm tone with prices showing an upward tendency. Quotations for easy bleaching sulphite range up to 1,250 krs., according to quality, strong sulphite being quoted at around 1,000 krs. During the month kraft has also advanced slightly.

MECHANICAL.

CHRISTIANIA.—The position in the mechanical market is very much as mentioned last month. Prices remain at high levels owing to the scarcity of stock. The majority of the mechanical pulp mills have disposed of their stocks for this year, and a few have entered into contracts for next year.

LATE ADVERTISEMENTS.

AERICAN PAPER MILL SUPERINTENDENT, experienced in every detail of construction and operation of vulcanised fibre plant, wishes to connect with European Paper Manufacturer progressive enough to develop into this profitable business. Apply "OPPORTUNITY," Box No. 691, THE PAPER MAKER Office, 47, Cannon Street, London, E.C.4. May-July 691

WANTED.

Complete Paper-Making Machine

NEW OR SECOND-HAND.
SUITABLE FOR NEWS QUALITY.

Apply, with full particulars, to BOX No. 693, "THE PAPER-MAKER" OFFICE, 47, CANNON STREET, E.C.4.

MAY-693.

For Immediate Sale

I-60" PAPER MACHINE

Complete with strainers, nine cylinders, steam engine, pumps, etc. Now running.

APPLY

Box N. 694, c/o, The "Paper-Maker" Offices, 47, Cannon Street, E.C.4. May-694.

BOARD OF TRADE RETURNS OF IMPORTS OF PAPER AND PAPER-MAKING MATERIALS FOR THE MONTHS OF MARCH, 1913, 1919 & 1920.

						QUANTITIES.			VALUES.		
						1913.	1919.	1920.	1913.	1919.	1920.
Imports of Paper—FOR PRINTING OR WRITING :									£	£	£
On reels.	From Sweden ..	..	..	..	..	39,530	21,181	—	23,145	45,821	—
	“ Norway ..	..	..	..	..	59,156	19,155	—	33,244	37,910	—
	“ Germany ..	..	..	..	..	14,226	—	—	11,485	—	—
	“ United States of America ..	..	..	..	..	2,638	978	—	1,398	1,950	—
	“ Newfoundland ..	..	..	..	..	—	9,920	—	—	15,100	—
	“ Other Countries ..	..	..	..	..	17,517	838	—	13,337	4,229	—
Total ..						133,067	52,072	—	82,609	105,010	—
Not on reels.	From Sweden ..	..	..	..	..	11,337	2,562	—	8,216	6,174	—
	“ Norway ..	..	..	..	..	24,586	11,338	—	15,959	33,966	—
	“ Germany ..	..	..	..	..	26,721	—	—	25,302	—	—
	“ Belgium ..	..	..	..	..	7,850	—	—	7,179	—	—
	“ United States of America ..	..	..	..	..	1,805	2,020	—	3,167	8,849	—
	“ Other Countries ..	..	..	..	..	8,405	1,403	—	9,588	10,112	—
Total ..						80,824	17,932	—	69,501	59,101	—
PAPER, PRINTED :											
Hangings	From Germany ..	..	..	..	..	3,696	—	—	7,250	—	—
	“ Belgium ..	..	..	..	..	1,434	—	—	3,033	—	—
	“ Other Countries ..	..	..	..	..	414	17	—	1,596	340	—
Total ..						5,544	17	—	12,479	340	—
Other Printed or Coated Papers	From Germany ..	..	..	..	..	4,718	—	—	12,193	—	—
	“ Belgium ..	..	..	..	..	2,070	1,528	—	4,905	11,028	—
	“ France ..	..	..	..	..	332	27	—	1,941	683	—
	“ United States of America ..	..	..	..	..	416	526	—	1,794	4,094	—
	“ Other Countries ..	..	..	..	..	68	62	—	453	447	—
Total ..						8,210	2,143	—	21,286	17,452	—
Paper : Printing, not coated, and Writing Paper in Large Sheets :											
From	Sweden ..	..	..	..	..	—	—	42,425	—	—	66,475
	“ Norway ..	..	..	..	..	—	—	58,370	—	—	131,108
	“ Germany ..	..	..	..	..	—	—	7,130	—	—	23,314
	“ Belgium ..	..	..	..	..	—	—	1,753	—	—	3,820
	“ United States of America ..	..	..	..	..	—	—	12,481	—	—	31,500
	“ Newfoundland ..	..	..	..	..	—	—	7,000	—	—	19,600
“ Other Countries ..						—	—	90,705	—	—	100,997
Total ..						—	—	210,870	—	—	436,814
Packing and Wrapping, including Tissue Paper :											
From	Russia ..	..	..	..	..	24,459	—	20,561	11,602	—	56,751
	“ Sweden ..	..	..	..	..	112,411	18,739	250,196	70,446	51,285	623,823
	“ Norway ..	..	..	..	..	84,875	43,510	100,479	50,375	122,170	282,954
	“ Germany ..	..	..	..	..	63,018	—	20,171	54,417	—	42,984
	“ Belgium ..	..	..	..	..	23,640	36	6,133	10,953	74	28,310
	“ Other Countries ..	..	..	..	..	16,221	4,005	16,097	15,303	18,865	49,897
Total ..						324,824	66,290	414,537	218,906	192,394	1,084,728
Coated Papers.	From Germany ..	..	..	..	..	—	—	1,077	—	—	3,269
	“ Belgium ..	..	..	..	..	—	—	4,420	—	—	23,588
	“ France ..	..	..	..	..	—	—	874	—	—	9,155
	“ United States of America ..	..	..	..	..	—	—	525	—	—	5,481
	“ Other Countries ..	..	..	..	..	—	—	3,994	—	—	11,831
Total ..						—	—	10,890	—	—	55,324
STATIONERY ..						—	—	1,321	—	—	8,248
MILLBOARD, LEATHER BOARD, CARDBOARD, AND PASTEBOARD ..						97,254	43,659	143,412	48,277	64,108	249,147
STRAYBOARD ..						329,720	83,947	43,094	89,460	87,504	36,340
OTHER SORTS ..						10,479	3,729	40,166	35,422	40,132	199,790
Total Imports of Paper and Cardboard ..						989,922	269,789	873,290	578,030	566,041	2,070,391

Board of Trade Returns of Imports of Paper and Paper-Making Materials for the Months of March, 1913, 1919 & 1920 - continued.

		QUANTITIES.			VALUES.		
		1913.	1919.	1920.	1913.	1919.	1920.
					£	£	£
Imports of Paper-making Materials :							
PULP OF WOOD : Chemical : Dry, Bleached :							
From Russia ..	tons	—	—	—	—	—	—
" Sweden ..	"	89	448	201	999	78,830	8,625
" Norway ..	"	1,240	1,112	1,807	13,309	56,129	76,415
" Germany ..	"	32	—	120	497	—	6,445
" Other Countries ..	"	118	—	100	1,249	—	5,015
Total ..	"	1,479	1,560	2,291	16,144	74,959	96,500
Chemical : Dry, Unbleached :							
From Russia ..	tons	—	—	297	—	—	10,522
" Sweden ..	"	2,923	5,811	11,322	24,204	162,066	322,388
" Norway ..	"	2,013	4,828	14,766	23,860	144,705	462,879
" Germany ..	"	3,539	—	225	28,829	—	6,300
" Other Countries ..	"	674	4,648	50	5,228	145,234	1,778
Total ..	"	10,049	15,287	26,660	82,121	452,005	804,867
Total of Chemical Dry Pulp of Wood ..	"	11,528	16,847	28,951	98,265	526,964	900,367
Chemical : Wet ..	tons	218	—	—	885	—	—
Total of Chemical Pulp of Wood ..	"	11,746	16,847	28,951	99,150	526,964	900,367
Mechanical, Dry ..	tons	65	2,728	3,414	346	56,397	83,839
Mechanical, Wet :							
From Sweden ..	tons	958	448	934	2,040	4,051	10,477
" Norway ..	"	31,766	18,802	31,499	78,847	160,235	328,161
" Canada ..	"	595	226	—	1,109	2,260	—
" Other Countries ..	"	—	—	—	—	—	—
Total ..	"	30,220	19,476	32,433	82,086	166,546	338,641
Total of Mechanical Pulp of Wood ..	"	30,294	22,201	35,847	82,432	222,643	422,180
Total of Pulp of Wood ..	"	48,040	39,051	64,798	181,582	749,607	1,322,847
ESPARTO, AND OTHER VEGETABLE FIBRES, including WASTE :							
From Spain ..	tons	2,135	540	4,389	9,991	8,100	96,545
" Algeria ..	"	6,641	1,255	4,202	21,510	16,315	87,416
" Other Countries ..	"	7,950	597	4,004	26,237	7,152	80,317
Total ..	"	16,726	2,392	12,595	57,747	31,567	264,278
LINEN and COTTON RAGS ..	tons	2,671	85	1,028	28,610	3,133	57,774
PAPER-MAKING MATERIALS, not elsewhere specified ..	"	1,450	89	1,601	12,422	1,243	19,787
Total Values of Paper-making Materials ..					280,370	785,850	1,644,686
Imports of Chemicals : BLEACHING MATERIALS ..							
IRON PYRITES (including Cupreous Pyrites) ..	tons	9,587	—	276	2,397	—	829
ROSIN ..	tons	77,065	10,146	61,336	134,107	21,565	209,367
GLUE, SIZE, and GELATINE ..	cwts.	98,140	221,242	82,944	76,191	422,223	219,657
	"	22,118	4,252	13,997	43,790	28,727	122,919

CONSERVATION OF PULPWOOD RESOURCES IN CANADA.

GOVERNMENT ACTION NEEDED.

THE Toronto correspondent of *The Times* states:—
" Urging vigorous research to ensure proper conservation of the pulp wood resources of the Dominion, and contending that provincial Governments must assume direct responsibility for assuring the perpetuation of this valuable source of revenue, the Canadian Commission of Conservation points out that the manufacture of pulp and paper is one of the key industries of the Dominion."

From April, 1914, to August, 1919, Canadian pulp and paper companies floated a total of \$40,752,876 of various forms of securities. Of this amount \$1,199,876 only was placed in Great Britain; \$17,800,000 was placed in the United States and \$20,753,000 in Canada. Of the balance of \$1,000,000, which is uncertain, probably about \$800,000 was placed in the States and \$200,000 in Canada. The \$20,000,000 placed in Canada was floated subsequent to November, 1917, the period during which Canada absorbed three great Victory loans.

The " Census of Industry " gives the total investment in pulp and paper mills in Canada in 1917 as \$186,787,405, being an increase of \$53,050,602, or 39.6 per cent., over 1915.

IF YOU ARE BUYING PAPER

COMMUNICATE WITH—

PARSONS TRADING COMPANY

HEAD OFFICE:

**Whitehall Building,
17, Battery Place, New York.**

CHIEF OFFICES FOR EUROPE

**Temple Bar House, 23/28, Fleet St.,
London, E.C.**

OTHER OFFICES:

**Sydney, Melbourne, Wellington,
Bombay, Adelaide, Stockholm,
Havana, Mexico City, Buenos Aires,
and Selling Representatives through-
out Latin America and the Far East.**

CABLE ADDRESS OF ALL OFFICES: "PARTRACOM."

Eng. No. "Pergamys, Drammen."

Aktieselskabet

PHÖNIX PAPIRFABRIK

DRAMMEN, NORWAY.



SPECIALITIES

**Thin Glazed and Unglazed Greaseproof
Manifold Papers. Bankpost.**

BOARD OF TRADE RETURNS OF EXPORTS OF PAPER AND PAPER-MAKING MATERIALS FOR THE MONTHS OF MARCH, 1913, 1919 & 1920.

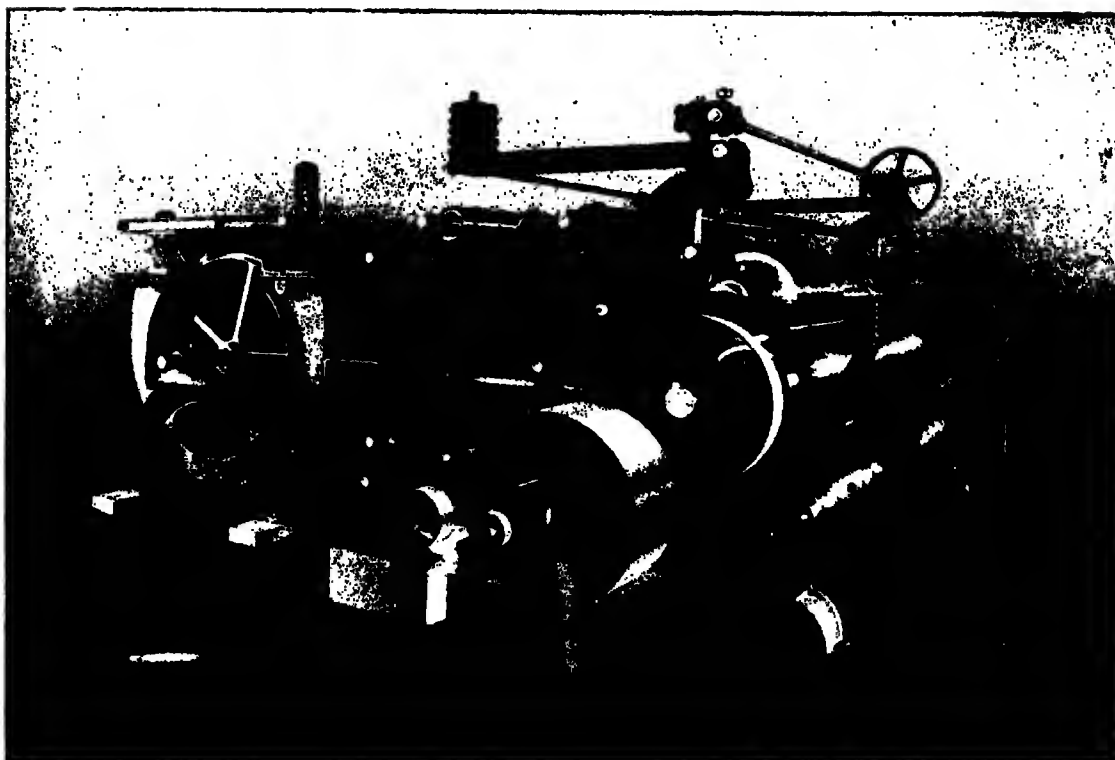
							QUANTITIES.			VALUES.		
							1913.	1919.	1920.	1913.	1919.	1920.
Exports of British Paper :										£	£	£
Printing not coated.	To France .. .. .	..	..	..	..	cwts.	10,104	6,775	8,022	12,565	36,160	32,101
	„ United States of America .. .. .	..	..	..	..	..	2,402	499	866	3,707	2,960	7,529
	„ Other Foreign Countries .. .. .	..	..	..	..	..	35,746	6,005	18,133	36,032	27,916	72,582
	„ British South Africa .. .. .	..	..	..	..	..	9,790	3,793	3,923	10,208	16,338	14,539
	„ British India .. .. .	..	..	..	..	..	23,228	141	17,667	22,361	997	52,489
	„ † Straits Settlements .. .. .	..	..	..	..	..	1,186	236	1,014	1,250	1,209	3,522
	„ Ceylon .. .. .	..	..	..	..	..	1,685	36	1,388	1,580	191	4,763
	„ Australia .. .. .	..	..	..	..	..	57,019	1,822	7,506	42,669	10,440	27,253
	„ New Zealand .. .. .	..	..	..	..	..	10,747	175	2,880	9,018	1,642	9,543
	„ Canada .. .. .	..	..	..	..	..	6,650	—	423	8,430	—	1,894
Total							160,408	21,740	66,446	150,659	103,850	242,466
† Writing paper in large sheets	To France .. .. .	..	..	..	..	cwts.	529	4,089	2,022	1,930	33,983	10,027
	„ United States of America .. .. .	..	..	..	..	..	76	83	91	455	989	950
	„ Other Foreign Countries .. .. .	..	..	..	..	..	3,208	4,127	3,981	8,685	33,957	23,704
	„ British South Africa .. .. .	..	..	..	..	..	1,750	350	359	3,211	2,551	2,424
	„ British India .. .. .	..	..	..	..	..	2,160	1,748	5,427	4,695	15,047	25,252
	„ † Straits Settlements .. .. .	..	..	..	..	..	603	226	197	1,095	1,930	1,508
	„ Ceylon .. .. .	..	..	..	..	..	244	67	153	587	454	999
	„ Australia .. .. .	..	..	..	..	..	7,375	1,188	5,379	12,015	8,534	24,680
	„ New Zealand .. .. .	..	..	..	..	..	2,058	553	580	2,767	3,555	2,679
	„ Canada .. .. .	..	..	..	..	..	869	21	—	1,824	161	—
Total							19,599	14,126	18,911	38,961	100,267	96,924
PACKING AND WRAPPING .. .. .							.. .. .			.. .. .
TISSUE PAPER .. .. .							.. .. .			.. .. .
COATED PAPERS : Printed and Embossed Paper Hangings .. .. .							.. .. .			.. .. .
Other Sorts, except Waterproof Wrappings, .. .. .							.. .. .			.. .. .
Roofing Paper, and Sensitised Photographic .. .. .							.. .. .			.. .. .
Paper .. .. .							.. .. .			.. .. .
ROOFING PAPER, Tarr'd and other .. .. .							.. .. .			.. .. .
STATIONERY : Envelopes, not including Box Stationery .. .. .							.. .. .			.. .. .
Other sorts .. .. .							.. .. .			.. .. .
Total							3,004	1,687	15,283	7,352	16,102	154,860
PAPER BAGS .. .. .							.. .. .			.. .. .
BOXES and CARTONS of PAPER and CARDBOARD (including .. .. .							.. .. .			.. .. .
FOLDING BOXES) .. .. .							.. .. .			.. .. .
MILLBOARD, STRAWBOARD, CARDBOARD, &c. .. .. .							.. .. .			.. .. .
PLAYING CARDS .. .. .							.. .. .			.. .. .
To France							522	611	584	3,357	3,917	2,672
„ United States of America							178	70	86	890	979	1,582
„ Other Foreign Countries							2,372	1,758	1,867	4,741	14,192	15,403
„ British South Africa							574	216	757	1,040	1,938	4,479
„ British East Indies							665	618	860	1,581	5,047	6,383
„ Australia							830	60	814	1,416	623	5,835
„ New Zealand							310	157	190	534	1,515	1,468
„ Canada							339	83	66	958	688	761
„ Other British Possessions							378	255	355	555	1,829	3,109
Total							6,168	3,828	5,579	15,072	30,728	41,692
Total Exports of British-made Paper and Cardboard							282,791	55,266	163,773	310,964	359,837	772,764

† Including Federated Malay States and Labuan.

† Included Notepaper and other kinds of paper for writing, prior to 1920, now included in "Stationery, other Sorts"—same group.



BOVING & Co. Ltd.



PULP WET MACHINE WITH CYLINDER WIRE.

We investigate and report on pulp mill developments in any part of the world.

We design, equip, construct and start up complete mills for sulphite, sulphate or mechanical pulp.

Manufacturers also of complete papermaking plant.

[Head Office:]

**56, Kingsway,
London, W.C.2.**

*Branches and Agencies in
MANCHESTER, FRANCE
SWEDEN, AUSTRALASIA
JAPAN, S. AMERICA,
CANADA, — ETC.*

WORKS: STOKE-ON-TRENT, STAFFS.



**BOARD OF TRADE RETURNS OF EXPORTS OF PAPER AND PAPER-MAKING MATERIALS
FOR THE MONTHS OF MARCH 1918, 1919 & 1920.—continued.**

	TITLES.			VALUES.		
	1913.	1919.	1920.	1913.	1919.	1920.
Exports of Foreign and Colonial Paper and Boards :				£	£	£
FOR PRINTING OR WRITING: On reels cwt.s.	1,772	33	—	1,001	143	—
Not on reels	5,026	1	—	3,964	15	—
PRINTED PAPER HANGINGS	122	9	—	671	169	—
OTHER PRINTED or COATED PAPERS (except SENSITISED PHOTOGRAPHIC PAPER)	—	2	—	624	125	—
PRINTING, not COATED, and WRITING PAPER in large sheets ..	—	—	2,668	—	—	7,641
PACKING and WRAPPING, including TISSUE PAPER	—	151	767	4,421	1,394	5,031
COATED PAPERS	—	—	23	—	—	276
STATIONERY	—	—	12	—	—	220
MILLBOARD, LEATHER BOARD, CARDBOARD and PASTEBOARD ..	—	—	608	329	—	1,318
STRAWBOARD	—	—	505	583	—	462
OTHER SORTS	—	134	1,632	6,714	1,649	28,146
Total Exports of Foreign and Colonial Paper and Cardboard	16,712	330	6,215	18,307	3,495	43,048
Exports, Foreign and Colonial, of :						
PULP OF WOOD: CHEMICAL: DRY tons	724	—	—	6,336	—	—
LINEN AND COTTON RAGS	860	—	8	8,099	—	140
OTHER ARTICLES	—	—	—	3,228	—	6,207
Total Value of Foreign and Colonial Papermaking Materials	—	—	—	17,663	—	6,347

THE DECAY OF PAPER IN HOT CLIMATES.

No one can live many years in India without observing how soon old newspapers turn yellow and become so brittle as to be useless even for making a parcel. Ordinary note-paper and foolscap suffer in the same manner, and it is probable that war prices have brought on to the market still worse qualities that in less time than usual will prove worthless. Legal documents, plans and drawings, pictures and books of lasting interest have been prepared on paper whose price alone should have condemned it.

The principal enemies of paper are insects and oxidation, due principally to chemicals that have been allowed to remain in the pulp, and whose destructive action is increased by heat and moisture. Among the insects most active in the destruction of paper are the cockroach, the silver fish and the weevil. Rats and mice will also destroy paper, not as food, but to prepare or line nests. The better the quality of the paper the more readily it is attacked by vermin, and the more it contains of chemical or mineral matter the more it is liable to decay and discolouration.

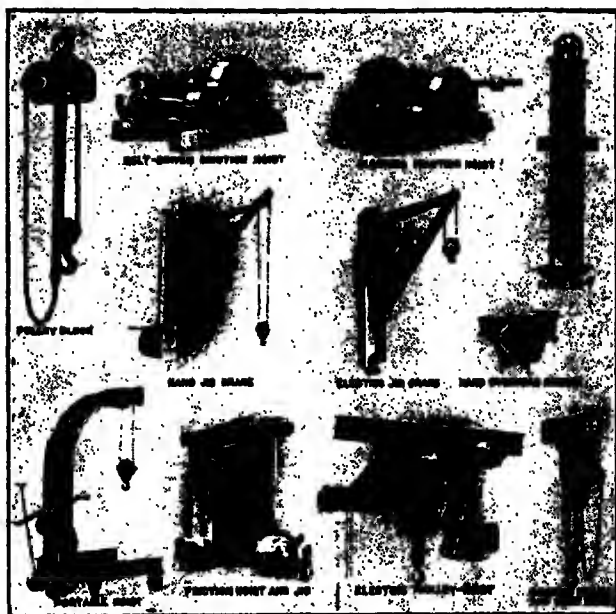
Really good and pure paper will last for centuries. It was made in China at a very remote period and was found by the Arabs when they captured Samarkand in 740 A.D. It then spread through Damascus into Europe, and many documents still exist dating from the ninth century. Paper was manufactured in Spain during the domination of the Moors, from whence it was first exported to England. It was made from pure cotton, and the absence of adulterants is the chief reason for its durability. The growth of the paper trade was a serious check on the manufacture of parchment which had hitherto been used exclusively for books and law documents; fortunately for the latter purpose the conservatism of the lawyers preserved the trade from extinction.

It is possible to protect all kinds of paper from vermin by surrounding it with a poisonous or intoxicating atmosphere such as is produced by naphthalene in a closed box or chamber, or the vapor of petroleum or similar spirit; but, as this vapor is inflammable and in certain states explosive, it must be used with due precaution. For example, if a sponge be soaked in petrol and placed in a dish within a closed box the petrol would evaporate slowly and produce an

explosive mixture of air and petrol vapor. The naphthalene is not so dangerously inflammable, but the sulphur contained in its vapor, while driving off vermin attacks, blackens gold, silver, copper and brass, and is thus destructive to gilding. The lowest classes of paper seem to be immune from the attack of insects owing to their unpleasant taste. The impurities they contain hasten their decay, which goes on whether in use or in store; but it will be observed that when exposed to the light the decay is most rapid. It is doubtful if there is any means of restoring documents written on inferior paper. Faded ink may be restored, but paper that has become brown and brittle has already had its organic structure destroyed and is beyond recovery. Copying by photographic processes seems to be the safest and surest method of dealing with valuable documents or prints, a method that avoids all risk of error. The destruction of books by weevils is principally due to the attraction of the paste in the binding, that is not always prepared with a suitable poison. The size on the surface of cloth-bound books that is so readily eaten off by small brown cockroaches may be protected by a coat of varnish freely diluted in turpentine so as not to exhibit a bright surface. This was found successful by the late M. E. H. Aitken. Acidity in gum or paste is also destructive to paper.

There is one very durable form of paper that seems to have been forgotten at a time when it might have been of considerable use. Paper parchment was patented in 1857 in England; it was made by passing unsized paper through a bath of commercial sulphuric acid diluted with half its volume of water. The bath at 600 degrees F. lasted from five to twenty seconds, after which it was passed first through water and then through an ammoniacal solution to remove all acid and then washed in water and dried.

Paper so treated undergoes a remarkable change; it becomes horny and parchment like and acquires about five times its former strength. It becomes soft in water although remaining impervious, and is unaffected by boiling. Since the price of tinplate has risen so much, this material seems to offer a good substitute for the manufacture of small boxes, such as are used for packing tobacco, drugs and other materials. A waterproof varnish on the outside would preserve the horny rigidity of the parchment and also close the lid effectively. It is not even now too late to test this material, for which all the ingredients are produced in India.—*The Indian Textile Journal*,



INCREASED PRODUCTION IS USELESS

unless you have satisfactory facilities for handling materials quickly and safely. It is imperative that your Works be equipped with the most modern time and labour-saving appliances if you require to speed up your output in the most economical manner.

We can help you

to deal with the **maximum** amount of goods at the **minimum** of cost.

Specialists for 30 years in the manufacture of—

**ELECTRIC LIFTS,
BELT DRIVEN LIFTS,
TRANSPORTERS,
CRANES, RUNWAYS, ETC.**

**A 12 MONTHS' GUARANTEE WITH
EVERY INSTALLATION.**



FIVE ELECTRIC TRANSPORTERS AT ONE OF THE LARGEST WORKS IN THE WORLD.

Particulars and Prices gladly supplied on application.

Wm. WADSWORTH & SONS, Ltd.,
BOLTON, ENGLAND.

Telegrams:
"HOISTS, BOLTON."

Telephone:
1342 (3 lines).

SWEDEN.

[FROM OUR OWN CORRESPONDENT.]

Stockholm, April 22, 1920.

THERE is one characteristic of the chemical and mechanical pulp markets which may be said to sum up the situation here—the steady advance in prices of practically all grades. Working conditions in the mills have improved somewhat, but the output is by no means what it ought to be, and it is still the fact that the demand from most paper-making countries largely exceeds the supply. This statement is corroborated by *Handelsstidning*, which recently expressed with some emphasis the opinion that under existing conditions Sweden could sell more pulp than she is producing. One of the causes of this position of affairs is the difficulty many mills are experiencing in obtaining supplies of raw materials.

Paper is also experiencing a boom, for since the latter part of 1919 a great advance in demand has been in evidence and prices have gone up enormously, the opinion being expressed that they will mount still higher.

During the year ended December 31st last, according to the Swedish Board of Trade Returns, the values of exports of wood pulp, pasteboard and paper amounted to 385.61 million kroner, compared with 334.76 million kroner in 1918.

The Stora Kopparberg Co., one of the most important industrial concerns in Sweden, owning large iron and steel works, saw mills, cellulose mills, paper mills, and forest areas, has issued debentures for 30,000,000 kroner in view of considerable extensions and improvements which are being effected at several of their plants. SVENSK.

NORWAY.

[FROM OUR OWN CORRESPONDENT.]

Christiania, April 23, 1920.

THE situation in the chemical pulp market has undergone little or no change of importance, except that prices have gradually advanced. The demand is still largely in excess of the supply, and the same may be said with reference to moist and dry mechanical pulps, only limited stocks being available. Most mills, I am told, have disposed of their output for this year, and a few have entered into contracts for small quantities for 1921.

The Borregaard's Company's report for 1919 shows a gross profit of no less than 15,077,559 kr., which, after deduction for interest, taxes, etc., is brought down to 10,450,826 kroner. From this a dividend of 10 per cent. is declared, and the reserve is increased to 7½ million kroner. The pension fund receives 100,000 kroner, and a further similar sum is voted to various cultural and charitable purposes. During the year the Barrow factories have been transferred to an English company, in which the parent retains a 45 per cent. interest, whilst the Molnbacka factory, in which the company holds an 80 per cent. interest, has paid a 15 per cent. dividend. The directors state that "For quite a while after the armistice there was a considerable falling off in business, but the sale of bleached cellulose has always been better than that of paper and sulphate cellulose. There is quite a good demand for the company's products, through the beginning of the rehabilitation of war-stricken Europe. Cellulose, as well as wood pulp and paper, is in great demand; the resultant rise in prices must, however, be viewed with some caution, so as to avoid an overestimation of the firmness of the market. It is to be hoped that the bright outlook will not be marred by labour troubles and difficulties in obtaining raw materials."

VIKING.

FINLAND.

[FROM OUR OWN CORRESPONDENT.]

Helsingfors, April 20, 1920.

THERE are signs that the Finnish pulp and paper industries are once more "getting into their stride," and it is not at all improbable that important developments may take place in the near future. I was pleased to receive a visit from your Mr. H. G. Phillips, and to have the opportunity of showing him that neither Finland nor its industrial life was dead yet. There has, indeed, been a noteworthy recovery in the country's economic position, though there is still much leeway to make up. The pulp and paper mills are gradually resuming activity, and there is a great demand for all grades.

It is announced that Gustaf Cederberg and Company's large timber works, with the surrounding forests and property, are being sold to a Swedo-Norwegian company for 94 million kroner.

A new system of railways is under construction which will connect Kajana and Nurmes with Uleahorg on the Gulf of Bothnia. This railway will open a new district which can supply large quantities of various timber and pulp-wood. The forests belong partly to the Finnish State and partly to private owners. The cost of the forests is low in comparison with other districts, and estates of about 25,000-30,000 hectares can be easily purchased from local owners at prices from 500 600 Finnish marks per hectare. The distance from the cutting places to a flutable river is from 0 to 3 kilometres, and the numerous rapids afford possibilities for the development of saw mills and pulp mills. FINNE.

RUSSIA.

[FROM OUR OWN CORRESPONDENT.]

Petrograd, April 12, 1920.

There is nothing to add to last month's report as to the paper-making industry in this country. Conditions are not in favour of either home production or imports from abroad. Finland has not yet resumed her trade in paper in Russia to any extent, and under the circumstances it is not to be wondered at that the shortage of paper here is very acutely felt. RUSS.

SWEDISH PULP MILL ENGINEERS AND JAPAN.

THE *Board of Trade Journal* states that the Swedish Commercial Attaché for the Far East has recently proceeded to that area to study economic and commercial conditions. In an interview with *Stockholms Dagblad* on the prospects of Swedish trade with the Far East, specially China and Japan, he stated that he felt quite certain that staple Swedish goods, such as wood pulp, matches, paper, petroleum and benzine motors, paper machinery, telegraph and telephone material, and iron and steel will find a market there.

Sweden's exports to Japan have been steadily rising. In 1909 the value was two million yen, in 1913 it had risen to five millions, and in 1916 to about eleven millions. During the first three quarters of 1919 the figure was 7.5 million yen, so that Swedish exports to Japan have again become normal. It must be borne in mind, however, that the Japanese are producing a number of the above articles themselves, and will therefore be able to compete with Sweden on the Oriental market. Japan is at present building large pulp mills, and hopes soon to be able to be independent of imported pulp. The erection of all these mills, will, however, call for the purchase of Swedish machinery.



IMPORTANT

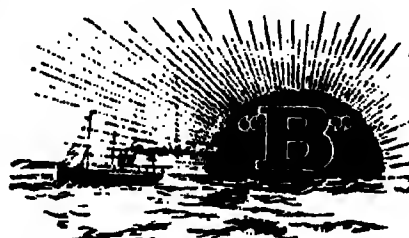
TO

Newspaper, Periodical and Magazine Proprietors,
Printers, Publishers, and all Users of Paper
throughout the World.

**BEFORE PLACING YOUR ORDERS APPLY TO US
FOR SAMPLES AND QUOTATIONS.**

W. V. Bowater & Sons,
Limited,
*are Paper Makers, Agents, and
Wholesale and Export Paper Merchants.*

REGISTERED



TRADE MARK.

We specialise in "News," Glazed and Unglazed Coloured Printings
Machine Finished and Super-Calendered Printings, Coated and
Imitation Arts, Typewriting Papers, Art Covers, Cartridges, Writings,
M.G., Glazed and Unglazed Natures, Tissues, Sulphites, and Browns,
Cover Papers, Badami and Native Account Book Papers, and
Board of all descriptions and grades.

159, Queen Victoria Street, LONDON, E.C.4.

Cables: "SPARTEOLUS," LONDON.
Codes: A B C (5th Edition), Western-Union and Western-Union 5-letter Edition, and Bentley's.

WAREHOUSES AND WHARVES—

BOWATER'S WHARF, Commercial Road,
Lambeth, S.E.: and Worship Street, E.

MORDEN PAPER WORKS—

MORDEN WHARF, Greenwich, LONDON, S.E.:
and at Carrick Street, GLASGOW.



OFFICES ABROAD—

NEW YORK: Woolworth Buildings.
CAIRO: 10, Chareh Tourguemane.
SHANGHAI: 9, Ningpo Road.
BOMBAY: Telephone Buildings, Home Street.
MADRAS: Post Box No. 237. And at
HONG KONG, BINGAPORE, PENANG and
Principal Ports throughout the World.

CANADIAN NEWS.

Abitibi Power and Pulp Co. Fined.

A FINE of \$500 has been imposed upon the Abitibi Power & Pulp Co. for polluting a stream at Iroquois Falls.

Shortage of Coal.

OWING to strikes pulp and paper mills are faced with a shortage of soft coal, and while some mills possess fair supplies others anticipate difficulty in securing sufficient coal to carry on.

Provincial Paper Mills Extension.

THE Provincial Paper Mills, Ltd., are making preparations to proceed with the construction of an addition to their Thorold mill. The addition, which will be used as a storehouse, will be 50 ft by 136 ft. and three stories high.

Pulp Mill at Temiskaming.

THE O'Brien interests of Renfrew state that plans for a pulp mill at North Temiskaming and a power plant at Des Quinze, Quebec, are ready and in a short time operations will be commenced. The plant promises to be of enormous size.

Hodge-Sheriff Paper Co.'s Premises Damaged.

IN a fire which broke out in the McKinnon Building on Melinda Street, Toronto, and destroyed the upper stories of the structure, the Hodge-Sheriff Paper Company, who are selling agents for the Wayagamack Pulp and Paper Company, suffered a considerable loss from water and smoke.

Pulpwood Prices Rising.

IT is stated that news print manufacturers who broke their contracts for Canadian pulpwood at \$23 a cord for four-foot peeled wood last autumn are bemoaning the fact now. The same wood that could have been purchased at that time at \$23 is to-day selling for \$20, an advance of \$6 a cord, and there is every prospect that before 12 months have elapsed the price will go to \$35.

Big Demand for Paper Continues.

MORE business is being turned down than ever, and each week little relief, if any, occurs in the paper situation. It was thought that production from now on would catch up with demand owing to the opening of spring and improved shipping conditions, but there is small hope of any diminution of business, and the shortage in all lines is steadily becoming more pronounced. Prices are very firm.

Mattagami Co.'s Increased Output.

A THIRD digester has been in operation at the mills of the Mattagami Pulp & Paper Co. for some time, and the total output has been from 80 to 90 tons per day of easy bleaching sulphite pulp of excellent quality. A third drying machine will be installed in September, which will increase the output from thirty thousand to forty-five thousand tons per annum. The sales price is now approximately \$90 per ton.

New Paper Mill for British Columbia.

THE Massett Timber Co., Ltd., is intending to erect a paper mill on Massett Inlet, Queen Charlotte Islands, where the company has extensive holdings of spruce and hemlock. This concern has been producing timber for some time and exporting to Cuba, Australia and England. Forty men are already at work on the plant and within few weeks there would be 800 men and 32 steam logging

rigs. The paper mill will be started next year, power being developed from the Company's sources.

Car Shortage Affects Newsprint Supply.

THE car shortage is worse than ever, and the news print manufacturing concerns are experiencing great difficulty in persuading the railway companies to let them have cars to ship out enough newsprint to keep the American papers running. In fact, shipments are much below normal, and have resulted in drastic reduction in consumption by American newspapers. At the present time there are some 59,000 Canadian cars in the United States, and there are only about 40,000 American cars on the Canadian roads. Thus the Canadian roads have a deficiency of 19,000 cars.

Inquiries for Pulp.

INQUIRIES are being received from many new sources for sulphite pulp, and amongst the latest is one from South America. Spain is another country which has just sent representatives to Canada in search of ground wood and sulphite pulp. As much as 90,000 tons are wanted, a little over half being mechanical pulp, for thirty of the principal paper mills of that country. There is not much prospect of any large portion of this order being filled, as the sulphite concerns are now behind on orders, and ground wood plants are in the same plight. Prices are growing stiffer all the while.

Protecting Canadian Forests.

THE Ottawa River Forest Protection Association has decided to construct 200 miles of telephone line through the forests of Upper Canada. In a report to the association, Mr. Arthur H. Graham, chief fire inspector, stated that last season was one of the worst for forest fires in many years. He said that fire loss in 20,000 acres, or 31 square miles of valuable forest, was caused by unextinguished lunch fires, careless smoking by campers, travellers and berry-pickers, and slash burning without fire ranger's permit. The work of the Ottawa River Forest Protective Association was outlined briefly by Mr. Graham, who pointed out that in the year the association employed 200 fire rangers and patrolled 21,000,000 acres, or 32,000 square miles, of forest land in Western Quebec. On this territory 227 fires were extinguished by these forest rangers.

Riordon Pulp and Paper Co.'s Balance Sheet.

THE annual statement of the Riordon Pulp and Paper Company, the largest manufacturer of chemical pulp in Canada, has just been issued. This shows that the gross earnings for the year ended December 31 last amounted to \$1,810,126, compared with \$1,443,046, in 1918, an increase of \$367,080, or in excess of 25 per cent. After all charges were met, the balance available for application to the common stock was \$851,088, representing earnings on the junior securities at the rate of 18.91 per cent., compared with \$366,563, or 18.14 per cent. in 1918. The higher 1919 showing was made despite the writing off of \$200,000 as a proportion of the discount on general mortgage bonds which had no counterpart in the 1918 statement. The total amount carried forward was \$401,088, bringing the total surplus up to \$2,591,796, or equal to 63 per cent. of the company's outstanding capitalisation.

It is stated that the new sulphite mill at Three Rivers, Quebec, which is being built for the International Paper Company, and will have a capacity of 100 tons of sulphite pulp daily, will be completed by the end of the coming summer. The newsprint mill, with a capacity of 200 tons, will not be completed until late in 1921.

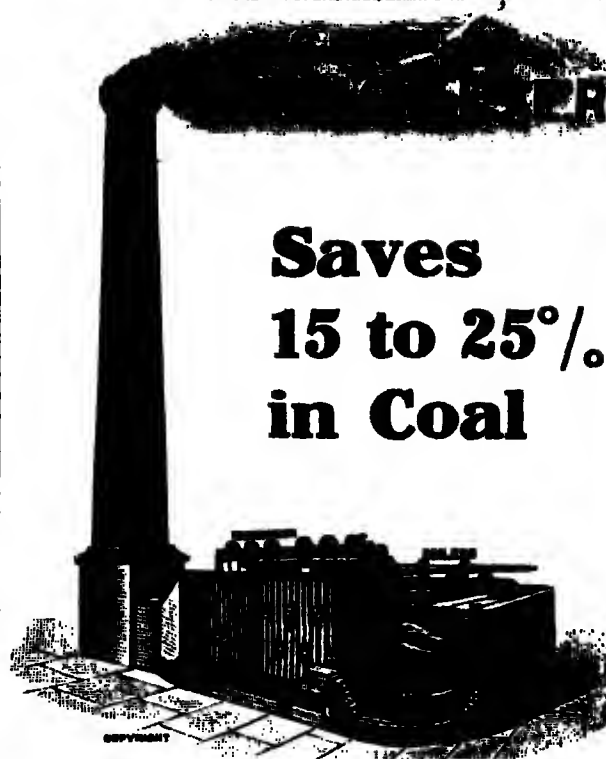
WOOD PULP PAPER AND BOARDS TIMBER

of every description
exported c.i.f. all principal
ports of the world.

KJELLBERG & HEDBERG

STOCKHOLM.

Cables: "Swedemill."



**Saves
15 to 25%
in Coal**

Write for Pamphlet WE to
E. GREEN & SON, LTD., WAKEFIELD.

ELECTRO BLEACH AND BY-PRODUCTS LTD.

ELECTRO  BRAND

Manufacturers of
Bleaching Powder, 35/37%.

Soda Crystals,
PURE CRUSHED.

Caustic Soda,
SOLID AND LIQUID.

"Vacuum" Salt,
DRIED AND UNDRIED.

Works and Office—
MIDDLEWICH, CHESHIRE.

H. ASTRUP & Co.,

CHRISTIANIA NORWAY.

EXPORTERS OF
PAPER AND WOOD PULP.

LEWIS CLEGG & SON,

Examiner Buildings, Strutt Street, MANCHESTER.
Telegraphic Address: "Conifer." Telephone No.: City 6585
Works: Stalybridge.

GLUES AND GELATINES

AMERICAN NEWS.

Employers' Offer Accepted by Trade Union.

AT a special meeting at Holyoke, the Eagle Lodge of papermakers accepted the wage agreement put forward by paper manufacturers offering an increase of 12½ per cent. as a temporary solution of the wage controversy.

Large Exports of Paper Board.

PAPER board is becoming an important item in the United States export trade. Shipments abroad during the month of January amounted to over a quarter of a million dollars in value, the largest customers being Canada, Japan, and China in the order given.

Re-afforestation in New York State.

ONE of the largest private re-afforestation schemes in New York State is contemplated in St. Lawrence County by the National Paper Products Co. A track of 1,700 acres near Streeter Lake has been selected for the purpose, and the first planting will be done this spring.

Floods in Wisconsin Cause Mills to Close.

PAPER mills on the Wisconsin and Chippewa rivers have been forced to close down as a result of floods caused by melting of ice and heavy rainfall. The heaviest loss was suffered by the Dells Pulp and Paper Co. at Eau Claire. A huge mass of ice crashed against their dam, carrying a portion of it away, and wrecking a footbridge.

New Chief Forester Appointed.

COL. W. B. GREELY, assistant forester, has been appointed to succeed Mr. Henry S. Graves as chief forester. Col. Greeley's work in the forest service has ranged through all technical grades. He has been supervisor of the Sequoia National Forest in California, and district forester in charge of the national forests of Montana and Northern Idaho.

Another Newsprint Investigation.

THE Secretary of Commerce has been called upon by the House of Representatives to furnish full information regarding the present newsprint situation. As soon as the information is received, it is expected that an investigation will follow into the causes leading to the present shortage, high prices, and alleged discrimination against small users of newsprints.

Paper Industry to Work With Colleges.

REPRESENTATIVES of leading American industries, representing a capital of \$5,000,000,000, have agreed to supply 620 American technical colleges with definite specifications of the training requirements desired for those industries. In return, the principals of the colleges have agreed to co-operate to meet those specifications. Papermaking is one of the chief industries concerned.

Sale of Hall-Richter Paper Co.

THE Hall-Richter Paper Co., of Northumberland, N.H., organised about five years ago, has been sold to a syndicate, the name of which has not been disclosed. The purchaser is identified with the newspaper publishing business and will use the output of the mill which for the past year or two has consisted of light-weight papers. It is believed that the purchaser is the Buffalo Commercial.

Forest Patrol Work.

DURING the last dry season aeroplanes patrolled extensive areas of Californian forests and discovered several fires in time to prevent them from spreading. This season the United States Forest Service proposes to extend the use of aeroplanes for this purpose to the whole of the Pacific Coast States. Forest rangers will be instructed in

flying, and Government aeroplanes assigned exclusively to the work.

Trying to Curtail Newsprint Consumption.

THE immediate reduction by 10 per cent. of the consumption of newsprint paper by all newspapers, and a request to advertisers to reduce their space by 10 per cent. during the present emergency, were urged in a resolution adopted in New York recently by the board of directors and paper committee of the American Newspaper Publishers' Association. If advertisers refused to co-operate, the resolution advised publishers to raise advertising rates sufficiently to bring about the proposed reduction.

Paper Mills Wanted in Texas.

PAPER prices are high in Texas, and, in order to bring them down, Mr. G. W. Dixon, of the Houston Chamber of Commerce, suggests building paper mills in the State. He states that the cotton-wood trees growing prolifically all over Texas make the finest grade of paper pulp, whilst many of the coarser grades of paper could be made from pine wood pulp. The utilisation of pine pulp would help to bring down the price of bags and wrapping paper of the coarser grades, and would release a part of the spruce pulp supply for print paper manufacture.

Motor-driven Paper Machine.

THE Hawley Pulp and Paper Co., of Oregon City, whose paper and pulp mills at the falls of the Willamette River include in their various processes the applications of electric motor drive, steam power and water power direct, is installing new equipment in one of its mills in which a paper machine, previously steam driven, is to be motor driven. This will consist of an engine-driven General Electric generator, 165 kw., direct current, 240 volts, driving a 200 h.p. variable speed motor. The same engine will drive the constant speed shaft of this paper machine.

Exhibition of Wood Pulp Products.

A NUMBER of commodities which may be manufactured from the pulp of fir, spruce and hemlock trees are being exhibited by the West Coast Lumbermen's Association at Portland, Ore. The exhibit was prepared in the United States Forest Products Laboratory of the University of Wisconsin, and included among the articles is a cloth of a lustrous fibre, resembling real silk. There are also stockings, and in addition to the fibre cloth in the stockings, there is gunpowder made from wood pulp, which is declared superior to gun-cotton powder. Then there is a paper absorbent intended as a substitute for absorbent cotton paper lagging, rope and twine, linoleum, shingles, reed fibre for furniture and matting, paper lath, rug yarn, paper webbing and phonograph records.

Gigantic Paper Machine.

THE Consolidated Water Power and Paper Co., of Grand Rapids, Wis., are planning great improvements at their mill which may cost about \$2,000,000. It is proposed to instal a print paper machine which will have a speed of approximately 1,200 feet a minute. It will manufacture sheet trimmed at 146 inches, and will have a capacity of 90 tons every 24 hours. This giant machine will be 300 feet long, one of the largest in the world. It is to contain five presses, the top presses of marble, 30 inches in diameter. It will contain forty 72-inch driers, and each section will be driven by individual motors. The machine will have a speed of 1,000 feet per minute immediately upon starting, and will be speeded up to its maximum of 1,200 feet within a few minutes. The giant is to be of the "two-roll" type.

Special Prepaid Advertisements.

SITUATIONS VACANT, BUSINESSES WANTED or FOR DISPOSAL, MILLS WANTED or TO LET, MACHINERY, and MISCELLANEOUS are inserted at Six Shillings for twenty-four words or under; Two Shillings extra for every subsequent line or portion of a line.

LEGAL AND PARLIAMENTARY NOTICES, FINANCIAL ANNOUNCEMENTS, TENDERS, SALES BY AUCTION, &c.—2/6 per line.

CHEQUES and Post Office Orders to be crossed and made payable to **S. C. PHILLIPS & Co.**

Offices: 47, Cannon Street, London, E.C.
448 & 450, Produce Exchange, Manchester.

TALC FOR SALE. 10,000 tons powder and sticks, finest quality, to be delivered in November.—**CORMIER, 25, Bedford Row, W.C.1.** MAY 687.

CARBONISING TISSUE.—Manufacturers of and dealers in Carbonising Tissue are requested to send samples and quotation to:—**Carbonia Works, Deventer, Holland.** May—July.—688.

RECOVERY AND REMANUFACTURE OF WASTE PAPER. BY **JAMES STRACHAN, 12s. 6d.** Copies can be had from **THE PAPER MAKER Office, 47, Cannon Street, London, E.C.4.**

WANTED, A MILL making white and coloured glazed or M.G. papers, or would consider acquiring an interest in same.—Address full particulars in first instance to **SURR & Co., Solicitors, 6, Laurence Pountney Hill, London, E.C.4.** U.C. 678.

210 H.P. CROSSLEY GAS ENGINE and SUCTION PLANT. Twin Cylinder Engine, tandem, made in 1907. Gas Plant new last year; with Starting Engine, 2 large Cooling Tanks, Fittings, &c. Really splendid set and can be seen working. Cheap before removal.—**FIRTH, BLAKELEY, LTD., Church Fenton, via Leeds.** April-July.—681.

THE OWNERS of British Patent No. 101456 of 1916, entitled "Improvements in and relating to Baling Presses," desire to dispose of the Patent or to enter into a licence agreement.—A copy of the specification and full particulars may be obtained from **THE HERTFORD RECORD CO., LTD., 59, Lincoln's Inn Fields, W.C.2.** May—602.

ELECTRIC LAMPS.—Manufacturers of first-class Tungsten Electric Lamps have factory throw-outs and odd sizes for sale, very cheap, from 1s. 2d. each. Sound delivery guaranteed and good burning. Write for quotations giving particulars of voltages and candle-powers required.—**Storekeeper, CORONA LAMPWORKS, LTD., Aschan Street, St. Pancras, London, N.W.5.** JUNE.—649.

TO PAPER IMPORTERS AND MERCHANTS, ETC.—Well-known house Paper Importers and Exporters, contemplates amalgamation with another good house with a view to mutual benefit, and owing to rapid increase in the turnover at Home and Abroad. Will those interested kindly write to Box No. 689, c/o "THE PAPER MAKER" Offices, 47, Cannon Street, E.C.4. May 689

WORKS MANAGER—Wholesale Manufacturing Stationery, Jobbing Envelope Making and Large Die Stamping—required to take entire charge of old established business in Lancashire. To a go-ahead live man with a capacity for Organisation and Supervision, a generous salary with other progressive inducements is assured.—State full particulars, experience, etc. (which will be treated in the strictest confidence.) Box No. 686, c/o "The Paper Maker" Office, 47, Cannon Street, E.C.4. (MAY—686)



MINISTRY OF MUNITIONS

BY DIRECTION OF THE DISPOSAL BOARD (PLANT AND MACHINERY SECTION).

TO CHEMICAL MANUFACTURERS, ENGINEERS, and OTHERS.

Highly Important Sale of the MODERN CHEMICAL PLANT

At H.M. FACTORY, LYTHAM, LANCASHIRE, on TUESDAY and WEDNESDAY, May 4th and 5th, at 11 o'clock a.m. each day, including:—Horizontal Steam Engine, Marshal type, 7½" cylinder, 14" stroke; two Vertical Steam Engines, 9½" cylinder, 14" stroke, by Marshal; one Vertical Steam Engine, 6" cylinder, 10" stroke, by Marshal; one Vertical Steam Engine, 7" cylinder, 12" stroke, by Marshal; Lancashire Boiler, 30' x 8' 6", 120 lbs. pressure, complete with mountings and fittings, by Spurr, Inman and Co.; Lancashire Boiler, 30' x 8' 6", 120 lbs. pressure, complete with mountings and fittings, by Daniel Adamson & Co.; Steam Generating Set, complete with Browett & Lindley vertical compound engine, coupled direct to a Castle Bi-polar Generator, D.C., 230 volts 216 amps., 300 revs.; Westinghouse Steam Generating Set, complete with vertical engine, open type, coupled direct to Multi-polar Dynamo, D.C., 240 volts 216 amps., 300 revs.; complete Air Compressors, by Ingersoll Sergeant Co., 12" steam cylinder, 14" air cylinder, 12" stroke, 100 lbs. pressure; six Water Tanks (Lancashire Boilers), 20' x 5' 6" and 30' x 8' 6", 28' x 7' 6", 22' x 7' 6", 33' x 7' 6"; two Single-cylinder Diagonal Steam Winches, 6" cylinder, 8" stroke, with foot brake, gears, flywheel, etc., to lift 15 cwt. or 30 cwt., with fall block; one 12-cwt. Crab Winch; Cast Steel Air Receiver, 8' x 2' 3 x ¼", to stand 140 lbs. pressure; complete Hot Water Supply and Heating Installation; complete Electric Lighting System, steel shafting, pulleys, helting; Hydro Extractor; Acid Tanks, earthenware storage jars (various sizes); six Wooden Boiling Becks, 13' x 2½' x 2½'; 176 Rustless Iron Sulphurating Pans, 3' 4" diameter; Washing Hydru, 48", by Broadbent; Electric Distribution Switchboard, with switches, fuses, main switch, cut-out and shunt resistance; 2 Worthington Boiler Pumps, 3' x 17' x 3'; Tangye Duplex Pump, 3' x 2' x 4'; 2 Electric Radiators; 80' C.I. Flanged Suction Piping, 10" diameter; 40 6 x 3 Steel Girders, each 17' long; 12 Rolled Steel Joists, 14" x 6", various lengths; 80 4-Flanged Sheet Iron Wheel Bogies; 2 Water Meters, by Genfield & Kennedy, No. 5 and No. 3; 250' Mild Steel Shafting, 2" diameter; 60' W.I. and C.I. Pulleys, from 15" diameter and 12" face to 15" diameter and 6" face; 600' 3" Balata Belting; 5 Earthenware Enamelled Baths, 5' 6" x 2'; 1,000 Vitriol Carboys, Rochdale Flags, Wood and Iron Cutters, Fire Clay, Pipe Clay, Asbestos Wool, Wool Vats (various sizes), Electric Cable, Pine and Deal Logs, Planks and Scantlings, Wood Cordite Reels, etc.

May be inspected on the three working days prior to Sale from 10 a.m. to 4 p.m. on production of Catalogue, price 1s., which may be obtained from the Auctioneers.

MESSRS. ELLIS & SONS,

21, Spring Gardens, Manchester. Telephone: 8270 City (5 lines).

NOTE.—For particulars of other Government Property for sale see "SURPLUS," price 3d. at all bookstalls; or by quarterly subscription of 2s., post free, payable in advance to the Director of Publicity, Ministry of Munitions, Whitehall Place, London, S.W.1.

MILLS & MANUFACTURERS

GENTLEMAN with a thorough practical knowledge of the manufacture of **TAGS, LABELS and TICKETS**, desires to meet with someone who wishes to commence their manufacture or development. World-wide scope, and a profitable venture. Mr. E. B. 234, Thorold Road, Ilford, E. Mar.-June—673.

L. S. SMALL & Co. (J. L. SHAW, Proprietor)

PAPER MERCHANTS.

Always in Stock: **BROWN WRAPPINGS & KRAFTS**

45/46, Blackfriars St., Phone: 6943 CITY.

MANCHESTER.

Grams: "Small, Lightening, Manchester."

VICKERY'S

LAYERS

TRANSPORTERS

In use
throughout
the
Paper-Making
World.

TRANSPORTERS

LAYERS

49, BEDFORD SQUARE,
LONDON, W.C.1.

Direct Action!

FOR TUBSIZERS.

Why have TWO processes when ONE will do?

FECULOSE will allow **TUBSIZING** to be done on the **PAPER-MAKING MACHINE**.

It gives results superior to Glue Loft Dried Papers.

Specially suited for Sizing :—

WRITING PAPERS.

LIGHT BLEACHED SULPHITE PAPER FOR WAXING PURPOSES.

KRAFT PAPERS.

LEDGER PAPERS.

FOR PAPER COATERS

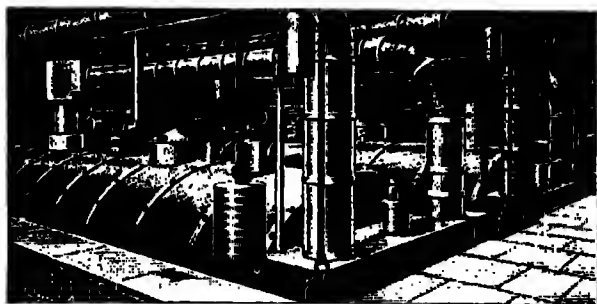
The Perfect Substitute for Glue or Casein.

Easily made, Frothless, can be dried at high temperatures, **FECULOSE** gives a rattle and ink resistance to paper unequalled by any other Size.

Samples and particulars from

**THE FECULOSE Coy.,
PAISLEY.**

BOILER AND PIPE COVERINGS



**Crown Slag
Wool & Steel
Sheeting.**

The most efficient
covering ever tested.

96% SAVING

**Telluric
Cement.**

The most durable
plastic covering
in use.

CROWN ASBESTOS 85% MAGNESIA.

SUTCLIFFE BROS.

Telephone—
Hyda 70. **SEAL WORKS, HYDE, Nr. MANCHESTER.**
London Works—Seal Wharf, High Street, Stratford, E.15. Established 1869.

A. W. K. TRUEMAN & SON,

LONDON. LEICESTER. BIRMINGHAM.

Paper and Board Merchants,
Imports and Exports.

NEWS on REELS and in SHEETS.
PRINTINGS.
KRAFTS.
VEGETABLE PARCHMENT.
GREASEPROOF.
TISSUES.
SULPHITES.
BOARDS.

STOCK LIST ON APPLICATION

47, FLEET STREET, LONDON, E.C.4.

Telephone :
CITY 4713,

Telegrams :
"AWKTETFILS, FLEET, LONDON."

HYATT

Roller Bearings

Hyatt, Ltd.,
24, Devonshire St.,
Theobalds Road,
London, W.C.1.
(Temp. Offices)



LONG FLEXIBLE ROLLERS



PAPER

WE SPECIALISE IN NEWS, PRINTINGS, BROWNS, CAPS, SKIPS, TISSUE PAPER (WHITE & COLOURED), MACHINE GLAZED CAPS, KRAFTS AND NATURE BROWNS, WRAPPING PAPER, TELEGRAPH PAPER, COUNTER AND TOILET ROLLS, SMALL REELS AND ALL KINDS OF CREPE; BAGS FOR ALL TRADES.

STRAWBOARDS, ALL SIZES AND SUBSTANCES; LARGE STOCKS IN BERMONDSEY AND ELSEWHERE.

We shall have pleasure in sending you our stock lists on receipt of your request.

"BRENTOCK" BOND.

A super-bond letter paper, linen faced or plain. Full range, white and coloured. Supplied at distinctly reasonable prices. Immediate delivery.

Local Branches at
WEST KENSINGTON,
CALEDONIAN ROAD,
LEWISHAM, Brixton,
CHELMSFORD,
FOUTHEND-ON-SEA,
SURREY AND
BRIGHTON.

THE FRENCH PAPERSTOCK COMPANY, Ltd.

24-30, BERMONDSEY WALL, " " " " LONDON, S.E.16.

Telegraphic Address: "Brentock, Rotham, London."

'Phone: Hap 5857 (5 lines).

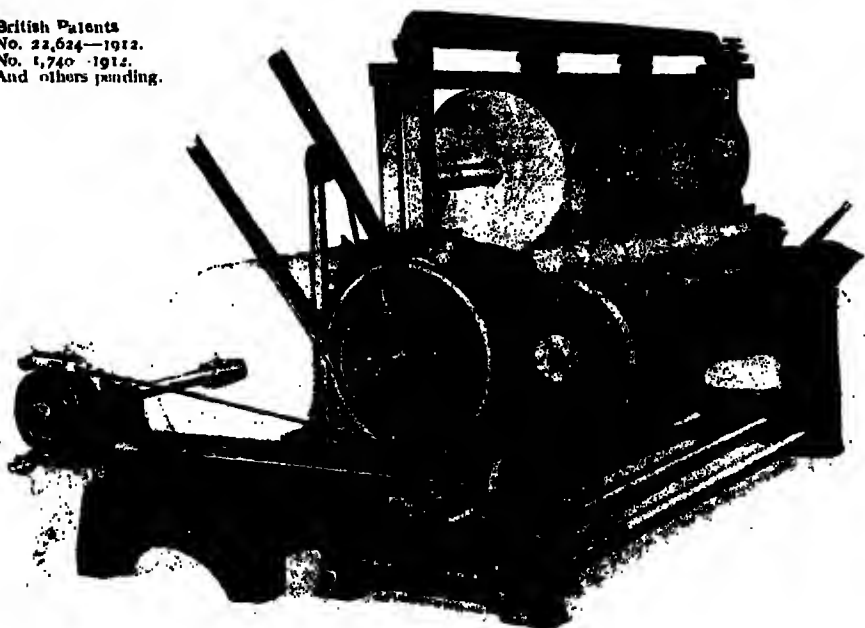
SPECIAL OFFERS

PURE WHITE M.G.
TOILET ROLLS.
12-oz. "Penrhyn"
Brand 98/- per gross,
nett, delivered.

"A Revolution in Slitting and Rewinding"

A Universal Type Surface Rewind for PAPER of every description, FABRICS, DUCK, INSULATOR TAPE, RUBBER, CELLULOID, TYPEWRITER RIBBON, JUTE, etc.

British Patents
No. 22,624—1912.
No. 1,740—1915.
And others pending.



In this machine, known as the

"CAMCO SLITTER AND REWINDER,"

searing discs pressing against a glass hard steel roll are used instead of the old style revolving or circular shear cutters arranged in pairs, this entirely eliminating distortion of the slit product in its passage from the parent roll to the rewound coils, and ensuring perfect re-winding, free from interweaving.

The first of this type of machine was imported into this country in January, 1915, since when some 90 have been acquired, ranging in width from 26" to 100". Some Government Controlled Houses have as many as four Cameron Slitter and Rewinders.

Among users of the "Cameron Principle" on Paper and Textile Goods are :

Messrs. Millington and Sheldrick, Manchester.
" Spicer and Co., Ltd., London.
" Fletcher and Co., Stoneclough.
" Thomas and Green, Woburn.
" Smith, Stone and Knight, Bristol.
" Samuel Jones, London.
" Lamson Paragon Works, London.
" Dunlop Rubber Co., Birmingham.
" Pirelli General Cable Co., Southampton & Milan.
" Johnson and Phillips.
" Siemens Bros., Woolwich.
" Connolly Bros., Manchester.

Société Française B. F. Goodrich Colombes, Seine, France.
Messrs. Amalbert, Vaucluse, France.
" Gascard, Paris, France.
" Papeteries, Bergès, Lancey, France.
" Persan Indianrubber and Gutta-percha Works, Persan, France.
" Targioni and Candi, Florence, Italy (For Surgical Bandages).
" W. T. Glover and Co., Manchester.
" Packing Materials Association, Manchester.
" Faire Bros., Leicester.
" Symington and Co. Market Harborough, Etc., etc.

Crepe Papers, Toilet Roll Slitting, Perforating and Rewinding—A SPECIALITY.

Write for practical particulars, prices, etc., stating your requirements, to the
SOLE AGENTS FOR GREAT BRITAIN AND COLONIES, FRANCE AND ITALY:

Canadian-American Machinery Co., Ltd.,
CAMCO HOUSE, 63, FARRINGDON STREET, LONDON, E.C.4.

TELEPHONE: CENTRAL 6926.
GRAMS: "PRODIGIOUS, CENT."

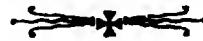
Factory Telephone 1049 CHISWICK.
Office " 6348 CITY.

Telegram: "PACKERIES, LONDON."

The Forester Paper Co. (1917)

LTD.

**VICTORIA ROAD,
ACTON, W.3.
Manufacturers.**



DIRECTORS :
A. E. MALLANDAIN. S. FARROW.

PACKING PAPER
SPECIALITIES.

CORRUGATED
PAPERS & BOXES, Etc.

WAXED PAPERS.

EMBOSSED PAPERS.

PAPER SHAVINGS,
Etc.

FANCY PAPER
SPECIALITIES.

CRINKLED & CREPE
PAPERS.

SHELF AND LACE
PAPERS.

CONFETTI.

CARLANDS, Etc.

Offices: 1, Foresters' Hall Place, Clerkenwell, E.C. 1.



HIGH-CLASS
ECONOMICAL
HORIZONTAL AND
VERTICAL STEAM
ENGINES,
WITH CORLISS
OR PISTON
DROP VALVES.

MILL GEARING.

We have supplied Engines, of upwards of 36,000, I.H.P. to British and Foreign PAPER MILLS alone.

Pollit & Wigzell, Ltd.,

Engineers and Millwrights,

SOWERBY BRIDGE, YORKSHIRE.

Telegraphic Address: "Prow, Sowerby Bridge."

National Telephone No. 1563 (2 lines).

ELECTRIC TRANSPORT

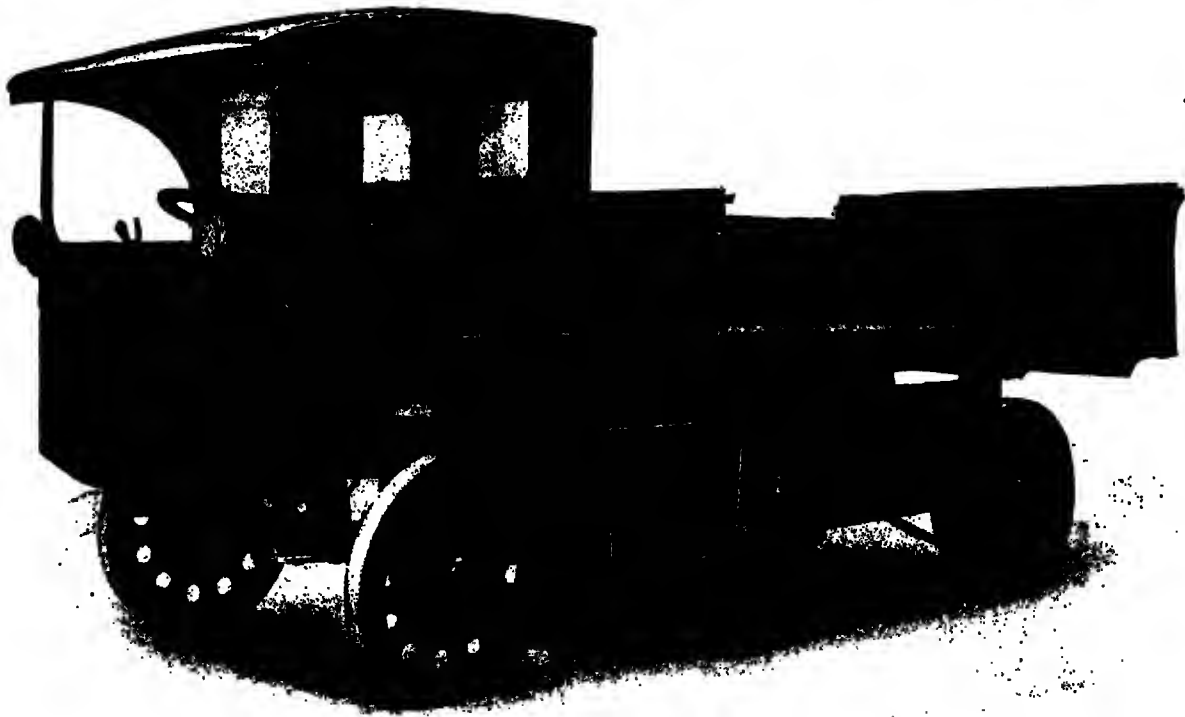
means EFFICIENT TRANSPORT.

IN town and suburban areas the rapid and economical transport of goods is of vital importance. Transport by methods which are obsolete means leakage of profit. The electric lorry provides the most up-to-date and economical method of handling your goods. Heavier first cost is more than compensated for by **LOW RUNNING COSTS**. Electric current is cheap and plentiful.

These further features of the Electric Lorry are worth attention :

1. **Cleanliness in Operation.**
2. **Ease of Handling.**
3. **Long Life of Tyres.**
4. **Low Repair Bill.**

We shall be pleased to advise as to the application of the Electric Lorry to your own transport.



ELECTRIC "ORWELL" LORRIES

BRITISH MADE THROUGHOUT.

EQUIPPED WITH 'Ironclad-Bride' BATTERIES.

RANSOMES, SIMS & JEFFERIES, LTD. (P.V. DEPT.)
Orwell Works, IPSWICH.

Selling Agents: **MOSSAY & CO., LTD.**, 7, Princes St., Westminster, London, S.W.1.

Midland Agent:
R. VERNON C. BROOK.
 A.M.I.E.E.,
 Shirley,
 Birmingham.

Agents for Ireland:
T. THOMPSON & SONS.
 19, Lower Abbey Street,
 Dublin.

Agent for Scotland:
C. J. RITCHIE,
 68, Gordon Street,
 Glasgow.

Agents for Yorkshire
 (West Riding):
JOWETT MOTOR
MAN'FG Co., Ltd.,
 Bradford.

Telegrams: "Prosperous, Camd. London."

Telephone: Central 13483.

W. D. EDWARDS & SONS, Ltd.,

75, KNIGHTRIDER STREET, E.C.4.

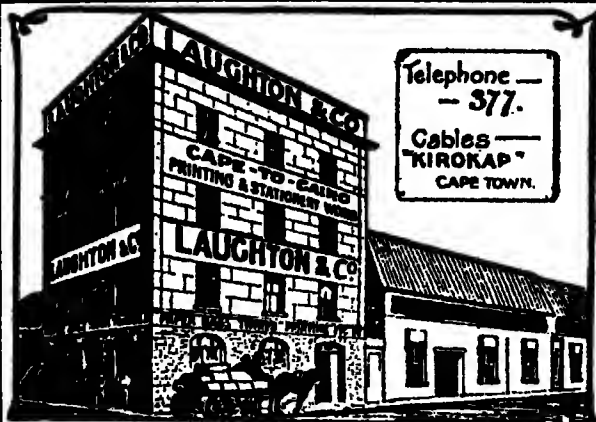
**WHOLESALE PAPER
MERCHANTS & AGENTS****LARGE STOCKS OF WRAPPING AND
BAG PAPERS, GREASEPROOFS, Etc.****The Woodlands Colour & Chemical Company.**

FRED TAYLOR, JOHN NOCHER,

**18, BOOTH STREET,
N. OSLEY
STREET,
MANCHESTER**Telegraphic Address:
"BASIC, MANCHESTER."

Works: CHEETHAM HILL, MANCHESTER

Telephone: CITY 947.

**MANUFACTURERS OF COLOURS FOR
LITHOGRAPHIC, CALICO PRINTERS,
& PAPER MAKERS, PAPER STAINERS,
DISTEMPER AND PAINT TRADES.**

Telephone —
— 377.
Cables —
"KIROKAP"
CAPE TOWN.

**WHOLESALE AND EXPORT
Paper Bag Manufacturers and
Paper Merchants.****Manufacturing Stationers and Printers.**

Formerly of London. Established at Cape Town 1896.

Besides being extensive users of various **PAPERS** for Manufacturing Purposes, we also merchant many grades of Papers.

Paper and Pulp Boxboard Mills are invited to send offers of any Clearance Lines of these; also Samples of all their regular makings of various Papers.

We are also open to act as Sole Agents in South Africa for several Continental Mills, and invite Correspondence, either to our London Agents,

**Messrs. COX, MOEVEN & CO., Baltic House, 27, Leaden-
hall St., London, E.C. Reference, National Bank of S.A.****LAUGHTON & Co., CAPE TOWN:
MECHAU STREET,**

Telegrams: "OTHERWHILE, LONDON."

Telephone No.: BANK 5707.

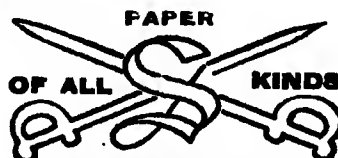
ESTABLISHED 1891.

PAUL SABEL & CO.,

(PERCY P. E. SABEL)

Paper Agents and Merchants

(IMPORT AND EXPORT).



Registered Design.

Enquiries Solicited for all Kinds of

WRAPPINGS, PRINTINGS, AND WRITINGS.

Sole Agents for Several Continental Mills.

26, UPPER THAMES STREET, LONDON, E.C.4.

For 1920 offer choice of three Bleached Sulphites in following capacities:

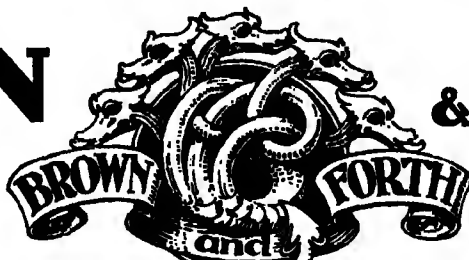
13,000 tons moist, strong "MERRITTON."

40,000 tons dry "HAWKESBURY" for book and kindred papers.

40,000 tons "KLPWA" highest grade, clean bleached for wood bonds and fine papers, where strong, well-cooked pulp is required. Your choice in wet or dry.

RIORDON PULP & PAPER CO., LTD.
MONTREAL CANADA

BROWN



& FORTH

Brussels :
110, Les Broussarts.

London :
21, Farringdon Street, E.C.

Telegrams :

"IDEM, MANCHSTER."

"CREEBLUX, CENT, LONDON."

TRADE MARK
PROPRIETOR: JOHN BROWN.

Manchester :
10, Dolefield, Bridge Street.

Telephone Nos. :

MANCHESTER 3283, 3284, and
3285 Central.
LONDON 9496, 9497 City.

Alkali
Alumina Sulphate
Alumina Hydrate
Alumina Cake
Aluminaferric Cake
Ammonia Sulphate
Barium Chloride
Bianc Fixe
Bleach
Borax (Crystals)
Caustic White
Chrome Alum
Copper Sulphate
Hypo-sulphite of Soda
Oxalic Acid
Salt Cake

Sal Ammoniac
Satin White
Soda Ash, Carbonated
Sulphite of Soda
Sulphur, Rolls
Brown Umber
Bronze Blue
Burnt Turkey Umber
Carbon Black (English)
Chroma
Lithopone Substitute
Mineral Black
Lithopone
Ochre (English and Irish)
Ochre (French)
Prussian Blue Paste

Prussian Blue Powder
Paste Black
Pure Zinc Oxide
Red Oxide
Red Oxide (Spanish)
Venetian Red
"Bone Glues"
Bone Size
Casine
Common Black Glue
Common Hide
English Gelatine
Foreign Gelatine
Foreign Glues
Fine Scotch Glues

Gelatine Size
Pickers Waste
Star Hide (Shavings No. 1)
"Town Glues"
Yanners' Wet Pieces

Maize Starch : Crisp
Pearl
Powder
Special
Farina Starch : Prime
Rice Starch : Special (in sheets)
Crystal (in bags)
Granulated
(in bags)
Dextrine

Benzoite
China Clay
Chloride of Zinc
French Chalk
Gypsum, Anhydrous
Italian Chalk
Magnesia
Magnesia (in lumps)
Mineral White
Patent Hardening
Paper Makers' Finest
Superfine Hardening
Talc (Norwegian)

ALUMINIUM AND BRONZE POWDERS :

For all purposes.

WAXES :

Beeswax, Composition Wax, Japan Wax, Ceresine Wax, Carnauba Wax, Core Vent Wick, Cable Wax, Ozokerite, Vegetable Wax, Spermaceti Wax.

SOAPS :

Of every description.

ULTRAMARINES :

Manufactured in all shades and for all purposes—Blues, Greens, Violets and Pinks.

SULPHATE of ALUMINA, 17/10%
Commercial and Iron Free.

EKMANS EXPORT AKTIEBOLAG

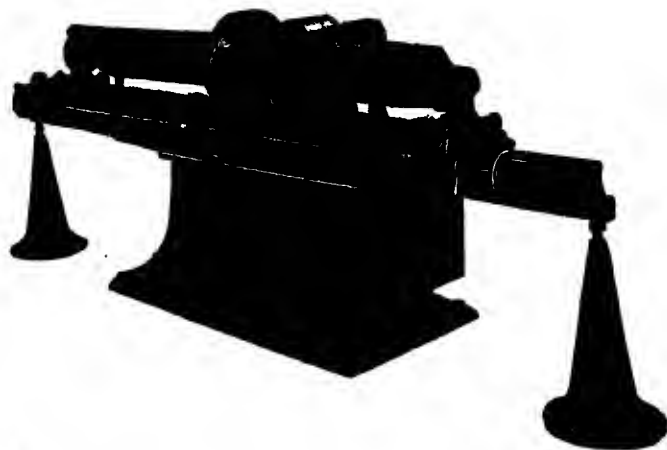
Hertzla, Gothenburg, Sweden.

**WOODPULP
AND
PAPER**

of every description
exported c.i.f. all principal
ports of the world.

Telegraphic Address: "Bothnia, Gothenburg.

ABC CODE, 5TH EDITION, USED.

**Protective Papers.**

Diamond-F Glassine, Greaseproof, Parchment

Vegetable Parchment and Spinning Parchment,

Also Manufacturers of Diamond-Fibre

Trucks, and Receptacles.

Diamond State Fibre Company

Bridgeport, Pa. (near Philadelphia), U.S.A.

London Address: High Road, S. Tottenham, N.15.

Cameron & Co. CHEMICAL AGENTS
AND IMPORTERS,

FARINAS, GUMS,
ROSIN, DEXTRINES,
AND STARCHES,
AND ALL PAPER-MAKERS
CHEMICALS.

61, Faulkner Street,
MANCHESTER.

Works—
Grove Works, Taylor Street
Bury New Rd., Manchester.

NORMAN EVANS,427-435, PRODUCE EXCHANGE,
MANCHESTER.12, MANNINGHAM LANE,
BRADFORD.

Manufacturer of

SPIRIT, OIL & WATER SOLUBLE NIGROSINES,
LIME BLUES, LIME GREENS, LITHOL RED
LAKE, ULTRAMARINE BLUE SUBSTITUTE, Etc.

ENQUIRIES ESTIMED.

AUTOMATIC KNIFE GRINDERS

FOR

Grinding Paper Cutting Knives

of all kinds from 6" to 130" in length, with
straight or concave bevel as desired. Prompt
deliveries on all sizes. Full particulars from

HONEYWILL BROS.

79 MARK LANE, LONDON, E.C.3

ROZOLENE SIZE*FOR PAPERMAKERS.*

Sole Makers:

THE ROZOLENE CO.,**49, DEANS GATE,
MANCHESTER.**

AULD'S Patent REDUCING VALVES

are well-known to ENGINEERS in
PAPER MILLS throughout the world.

Our New Patent "QUITETTE" Valve

is highly
recommended
for its
SIMPLICITY
and has
already
established
itself as



**THE MOST
ACCURATE
& RELIABLE
REDUCING
VALVE
ON THE
MARKET
TO-DAY.**

*We have
received*

NEARLY A
HUNDRED YEARS'
EXPERIENCE
IN BEHIND OUR
VARIOUS
SPECIALITIES VIZ,

*countless
Repeat Orders.*

REDUCING, SAFETY,
SURPLUS AND STOP
VALVES,
AUTOMATIC
EXHAUST VALVES,
ETC.

Catalogues on application

DAVID AULD & SONS, Ltd.
WHITEVALE FOUNDRY, GLASGOW.

Estd.



1848

Cole, Marchant & Morley Ltd.

Telephone
744 Bradford

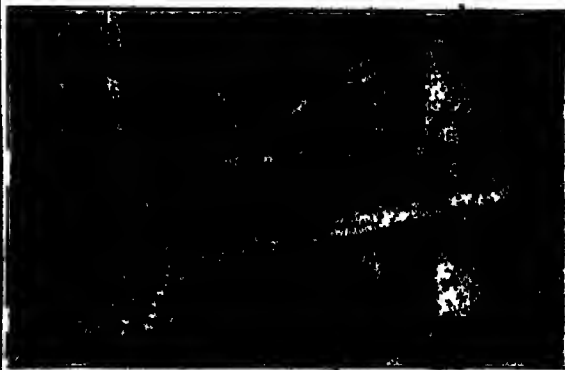
Bradford Yorks.

Telegraph
'Cole Bradford'

O., M. & M.

CENTRAL EXHAUST STEAM ENGINES, with Piston Drop
Valves, and Patent Combined Drain, Exhaust and Relief Valves.
HEAT EXTRACTION ENGINES for installations where
Steam is required in the works for heating or process work.

Catalogues gladly sent on request.



L.000 I.H.P. C. M. & V. Central Exhaust Steam Engine Installation.

UNIFLOW STEAM ENGINES.



Specially suitable for Paper Makers. Strongly built.

Very Reliable. High Economy.

HICK, HARGREAVES & CO. LTD.,
BOLTON, ENGLAND.

ESTABLISHED 1882:

Telegram. "HICK, BOLTON"

Phone: 1373

Makers of Corliss, Drop Valve and Uniflow Steam Engines, Diesel Oil Engines, Condensing Plant, Mill Gearing



AKTIEBOLAGET HELSINGE TRÄEXPORT

(Formerly Arvid Ordqvist.)

OFFICES: SOMMEN, SWEDEN.

Shipments from Baltic Ports and Gothenburg.

Yards at Söderhamn, Gefle, and Gothenburg.

About 12,000 standards per annum.

**EXPORTERS OF SAWN AND PLANED WOOD GOODS,
WOOD-TAR AND TURPENTINE.****BOXBOARDS & WOODPULP**

Shipping Marks for Sawn and Planed Goods:

1sts	-	-	H	+	T	4ths	-	-	H	-	T
2nds	-	-	H		T	5ths	-	-	H	V	T
3rds	-	-	H	+	T	6ths	-	-	H	W	T

Unsorted: Helsing.

Telegraphic Address: "Helsing, Sommen"

**HANDELSFIRMAN SOLO
STOCKHOLM C. SWEDEN.**

Export of

**Scandinavian Paper
Pulp and Boards**

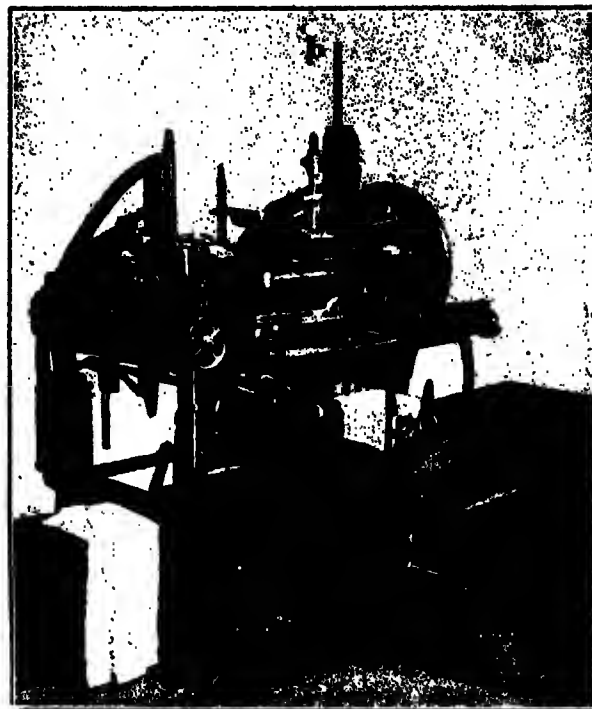
all kinds.....

Commission Merchants and Agents.

Telegraphic Address—"SOLO, STOCKHOLM."

Henry Featherstone**13, WHITEFRIARS ST., FLEET STREET,
LONDON, E.C.4,*****Paper Agent
& Stationer*****SPECIALITIES:****NEWS & SUPER-CALENDERED
PAPERS IN REELS OR REAMS.**

WRITE OR 'PHONE CENTRAL 426 & 427.

THE CARMIC**AUTOMATIC ADJUSTABLE
ENVELOPE OR BAG FOLDING
MACHINE.****BRITISH MADE THROUGHOUT.****ADVANTAGES OF THE CARMIC:**

1. Any size Envelope or Bag can be folded upon the "Carmic," within the specified range of each Machine which is practically unlimited.
2. The change from one size to another being carried out in about one hour. No additional boxes needed. Same box used for all sizes.
3. All classes of paper can be folded.
4. Out-put of Machines from 28,000 to 32,000 per day.
5. Does not require special skill to operate.
6. Very little motive power is needed to drive Machine.
7. Best material and workmanship throughout.
8. Space required for machine and operator, 7ft. x 5ft.
9. Machines supplied ready for working.



Prices and Particulars to be obtained from

Peter Carmichael & Co., Ltd.**303, SOUTHAMPTON STREET,
CAMBERWELL, LONDON, S.E.5.**Telephone:
Hop 479Telegrams:
"Encarmicom, Camb,
London."

Do You know these Papers ?

THEY are Members of the British Association of Trade and Technical Journals, Ltd., a progressive organisation of over 150 journals, having as one of its chief objects the expansion of British trade through an efficient business Press.

These journals can help you if you need up-to-date information about any trade or industry, or if you want to know about new processes—or goods—or sources of supply.

They offer you the most effective means of finding new markets at home or overseas for the goods you produce or sell; they can help you to solidify and extend your present markets.

They invite enquiries on any technical or commercial matters in the various branches of industry they represent.



The address of any Paper in this list may be obtained from the Secretary of the

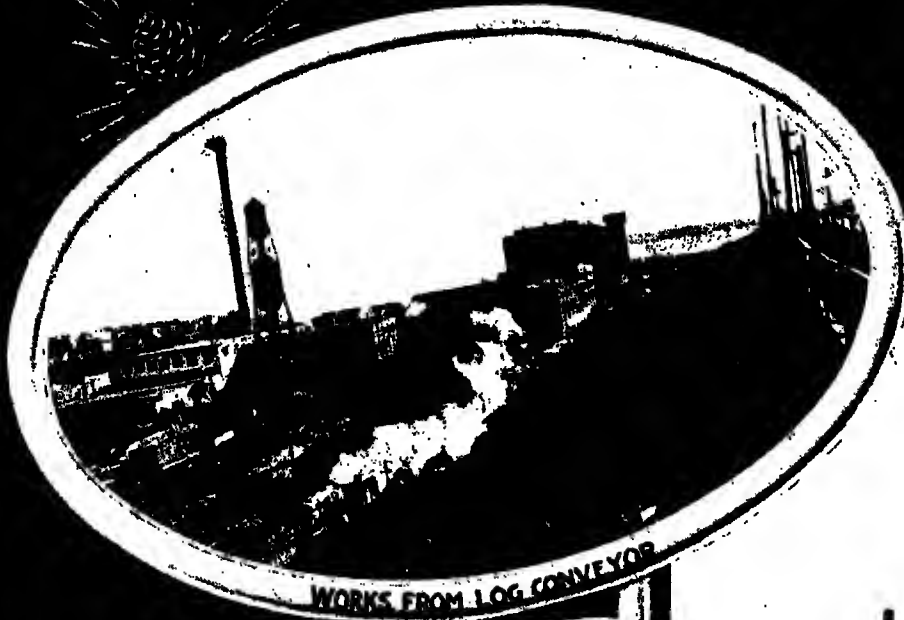
**British Association
of Trade & Technical
Journals, Ltd., :: ::**

Sicilian House, London, W.C. 1.
Southampton Row,
Telephone No. : HOLBORN 395.

Aeroplane (London).
Auto-Motor Journal (London).
Auto-Cyclist (Sydney).
Bioscope (London).
Brokers' Gazette (London).
Brick & Pottery Trades' Journal (London).
British & Colonial Mineral Water Trade Journal (Cardiff).
British & Colonial Pharmacist (London).
British Baker (London).
British Journal of Photography (London).
Chemical News (London).
China Clay Trade Review (London).
Confectionery Journal (London).
Corn Trade News (Liverpool).
Dairy & Creamery Journal (London).
Dairyman (London).
Decorator (London).
Drapers' Organiser (London).
Electrical Industries & Investments (London).
Electricity (London).
Electrician (London).
Engineering Review (London).
Fancy Goods Record (London).
Fertiliser & Feeding Stuffs Journal (London).
Fine Art Trade Journal (London).
Flight & The Aircraft Engineer (London).
Footwear Organiser (London).
Freemason & Masonic Illustrated (London).
Hardwareman & Ironmonger's Chronicle (London).
Indian Medical Gazette (Calcutta).
Indian & Eastern Engineer (Calcutta).
Indian Motorist (Calcutta).
India Rubber Journal (London).
Journal of Decorative Art (Manchester).
Licensing World (London).
"Locomotive" & Railway Carriage and Wagon Review (London).

Marine Engineer & Naval Architect (London).
Mechanical World (Manchester and London).
Milling (Liverpool).
Model Engineer & Electrician (London).
Motor Cycle & Cycle Trader (London).
Motor Export Trader (London).
Motor in Australia (Sydney).
Motoring in South Africa (Cape Town).
Motorist & Wheelman (Perth, W.A.).
Motor Magazine of Canada (Toronto).
Motor Trade of Canada (Toronto).
Motor Trader & Review (London).
Music Trades Review (London).
National Association Review (London).
N.E. Motor & Cycle Journal (Auckland, N.Z.).
Organizer (London).
Outfitter (London).
Paper Box & Bag Maker (London).
Paper Maker & British Paper Trade Journal (London).
Photographic Dealer (London).
Power Laundry (London).
South African Motorist (Johannesburg).
South Australian Motor (Adelaide S. Australia).
Sports Trades Journal (London).
Stationery World (London).
Steering Wheel (Brisbane).
Sugar Journal, International (London).
Textile Manufacturer (Manchester).
Textile Mercury (Manchester).
Toyshop & Fancy Goods Journal (London).
Waste Trade World (London).
W.A. Motorist (Perth, W.A.).
World's Carriers and Carrying Trades' Review (London).

WAYAGAMACH

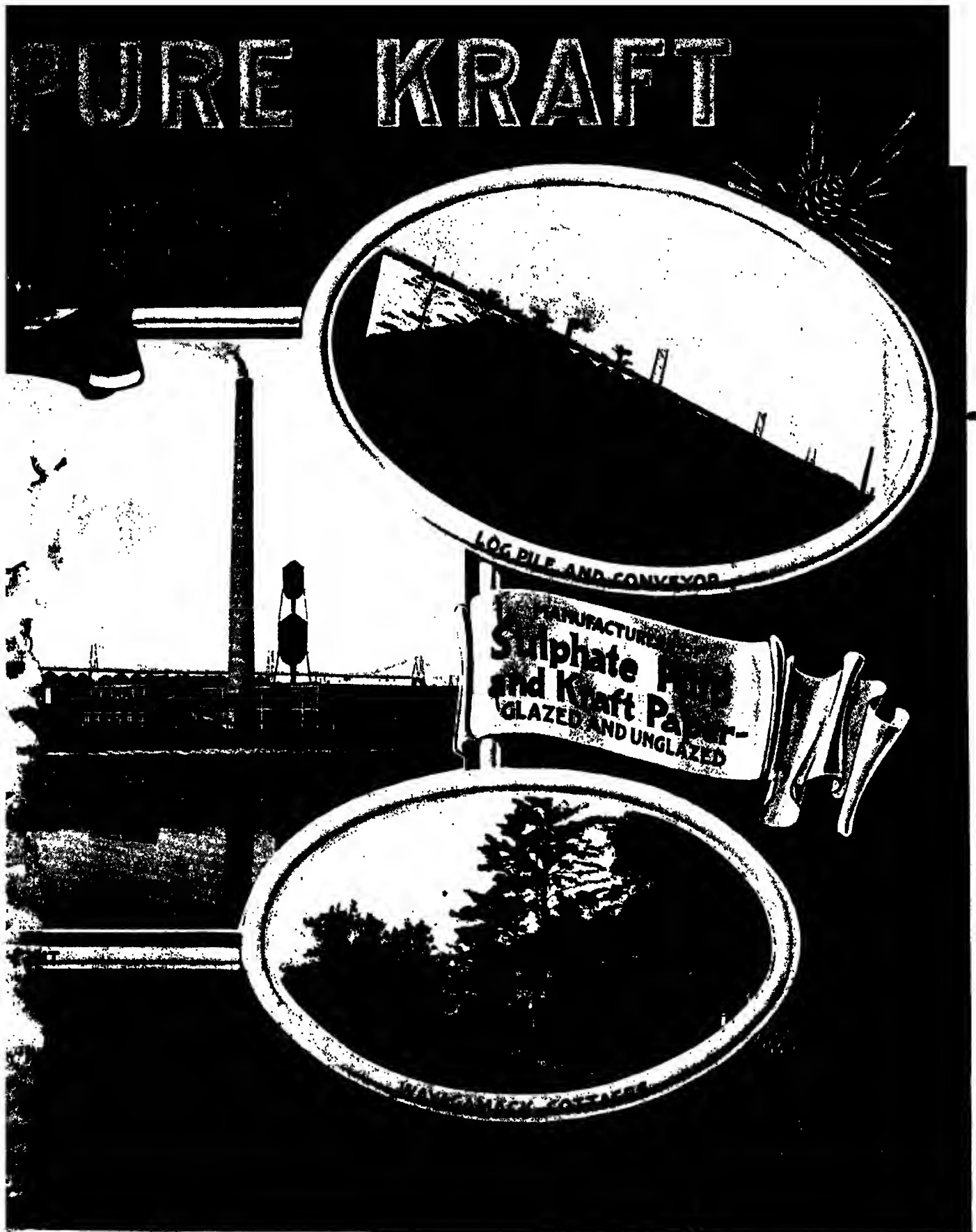


WORKS FROM LOG CONVEYOR



EXPORT BAILING





WATER SUPPLIES.

For

BORE HOLES

and High Class

PUMPING MACHINERY.

Consult

WILLIAM M. MATTHEWS & CO LTD

Moston Lane
MANCHESTER.

MUSGRAVE'S FANS and HIGH-SPEED ENGINES.

For all purposes where
air requires to be moved.

Induced Draft
for Boilers.

Forced Draft.

Drying.

Dust Removal.

Complete Schemes Designed and
Installed.

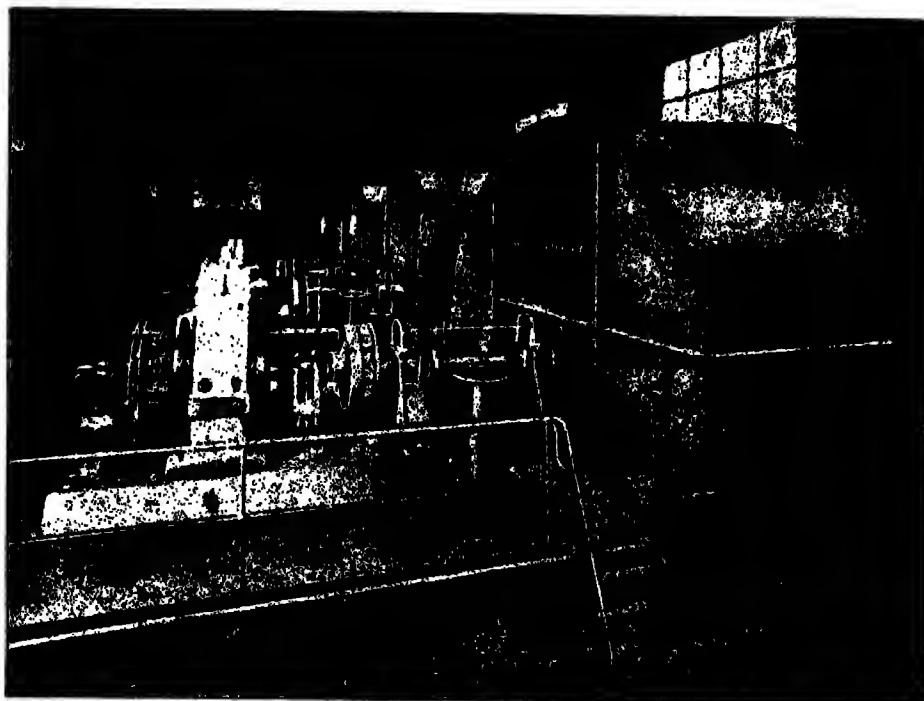
MUSGRAVE & Co., Ltd.,

48, Deansgate, MANCHESTER
Sardinia House, Kingway,
LONDON, W.C.1

24, Queen Street, CARDIFF.

Head Office;

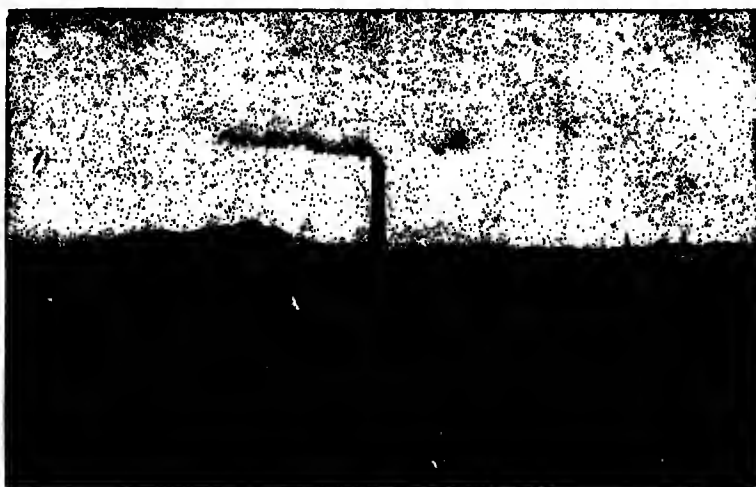
St. Ann's Ironworks, BELFAST.



Three large induced draft fans recently installed in the Corporation Power Station, Bradford.

THE UNITED WIRE WORKS LTD.

EDINBURGH, GLASGOW, & NEWCASTLE-ON-TYNE.



EDINA WORKS, EDINBURGH.



BALTIC WORKS, GLASGOW.



CARNTYNE WORKS, GLASGOW.

Paper-Machine Wires

ALL MESHES, AND UP TO 20 FEET WIDE.

CYLINDER COVERS.

WIRE CLOTH of all kinds in Brass, Copper, Bronze,
and Steel, Plain, Tinned, Galvanised or Painted.

GREENHALGH & CO.

Sulphite Sulphate — AND — Mechanical Pulp.



LONDON :

56, Cannon Street, E.C.

Wire: "INCITATUS."

'Phone: CITY 3382.

MANCHESTER :

15, Cross Street.

Wire: "INCREMENT."

'Phone 2627 CITY.

**Bronze Blue & Polishing Bronze Blue
Woodley Scarlet, etc., etc.**

ASHBROOKS LIMITED

46a, Market Street, MANCHESTER.

WOOD MILL,

Works:

WOODLEY nr. STOCKPORT.

Tel.: 6577 CITY, MANCHESTER.
225 DENTON, WORKS.

Grams. ACETIC, MANCHESTER.
ACETIC, WOODLEY.

ALL COMMUNICATIONS TO MANCHESTER OFFICE.

Samples Matched on Shortest Notice.

Manufacturers of all Classes of Colours and Pigments.

JAMES SPICER & SONS

LIMITED.

CHAIRMAN:	
THE RT. HON. SIR ALBERT SPICER, BART.	
DEPUTY CHAIRMAN:	
SIR HOWARD H. SPICER, K.B.E.	
CHARLES EVAN SPICER.	J. LEONARD SPICER.
A. DYKES SPICER.	DOUGLAS SPICER.

PAPER

OF EVERY DESCRIPTION.

Head Offices and Warehouses :

**50, UPPER THAMES STREET AND ABBEY WHARF,
LONDON, E.C 4.**

Telephone : CITY 6486.

Lang Bridge Ltd.

Makers of Machinery for Paper Mills

Paper Coating Machines with Festooning Arrangement (with or without Turntable), Hot Air Drying Apparatus, Self-acting Rod Box, and Reeling Apparatus.
Calenders.

Paper Brushing Machines with three Large Circular Brushes.
Re-reeling Machines.
Slitting and Cutting Machines.
Pasting Machines for three Webs of Paper.

Paradise Works, Accrington, Lancs.

J. E. SALVESEN & Co., Ltd.

AND

GORDON WATTS & Co.

Timber and Wood Pulp Agents

LONDON -

158, Fenchurch Street, E.C.3.

MANCHESTER -

448/450, Produce Exchange Buildings.

EDINBURGH -

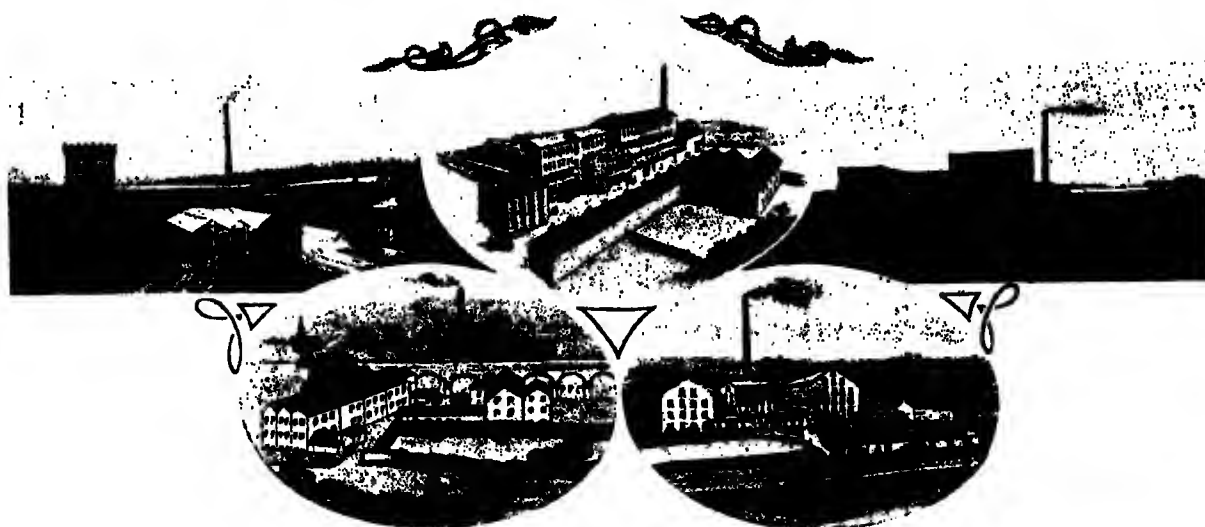
9, Greenhill Park.

Telegrams: Salvesen } LONDON.
Gordon }

Salvesen } MANCHESTER
Gordon }

Johann } EDINBURGH.

PORRITTS & SPENCER, LTD.



Telegrams :

EXPORT, BURY.

Telephones :

607 and 608 BURY.

Head Office :

BURY, - LANCs.

Branches :

PORRITT BRO. & AUSTIN, LTD.

JOSEPH PORRITT & SONS, LTD.

SAMUEL PORRITT & SONS, LTD.

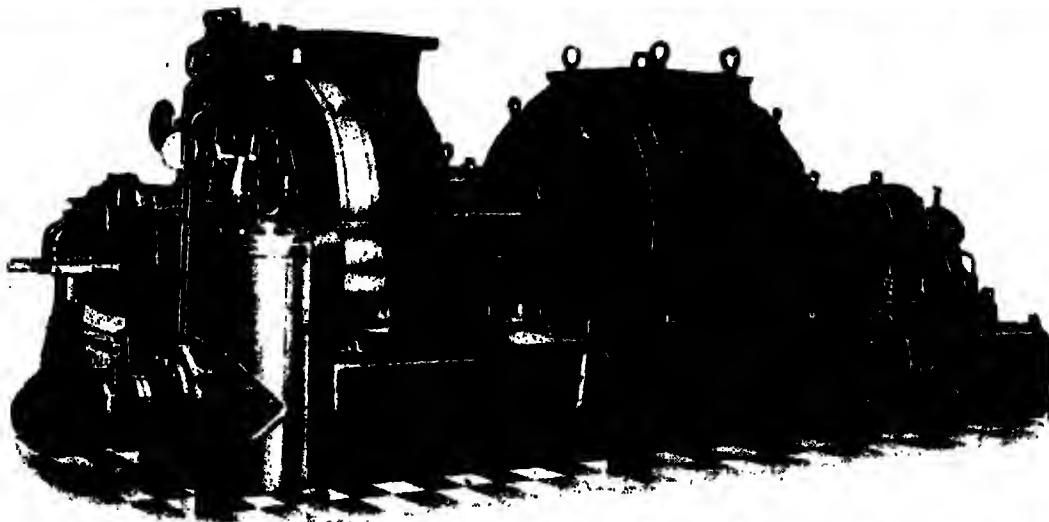
J. H. SPENCER & SONS, LTD.

The Largest Manufacturers in the World

OF

PAPERMAKERS'

FELTS & JACKETS



BACK-PRESSURE & PASS-OUT IMPULSE TYPE STEAM TURBINES
FOR

PAPER MILLS

Provide combined Power-Generating and Steam Heating Plant.

ECONOMY IN PRODUCTION.

LOW MAINTENANCE COSTS.

RELIABILITY AND EFFICIENCY.

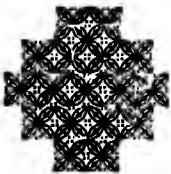
Complete installations supplied with A.D. or D.O. Generators.

Enquiries invited.

FRASER & CHALMERS ENGINEERING WORKS, Erith, KENT.

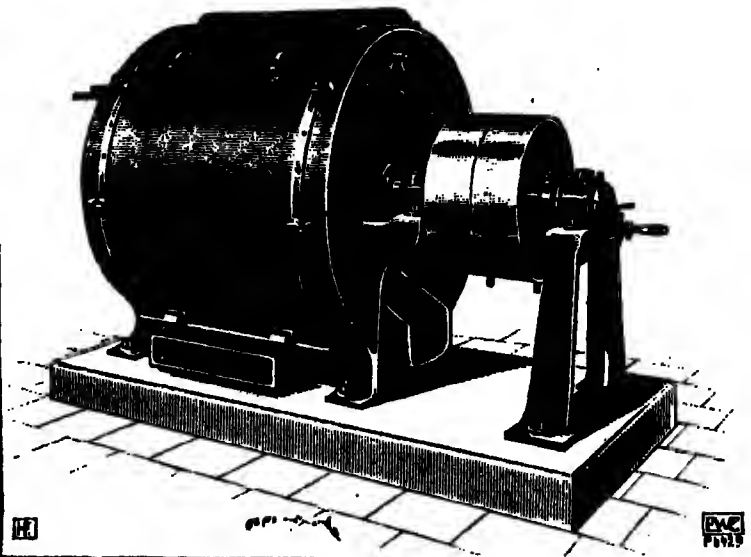
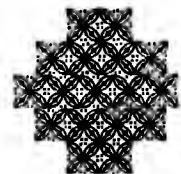
(Proprietors: The General Electric Co., Ltd.)

London Office: 67, Queen Victoria Street, London, E.C.4.



ESCHER WYSS & CO. S.A.

Zurich (Switzerland).



**CENTRIFUGAL SCREEN
FOR WOOD GRINDING
MILLS.**

**COMPLETE PAPER MILL
INSTALLATIONS.**

LONDON OFFICE:

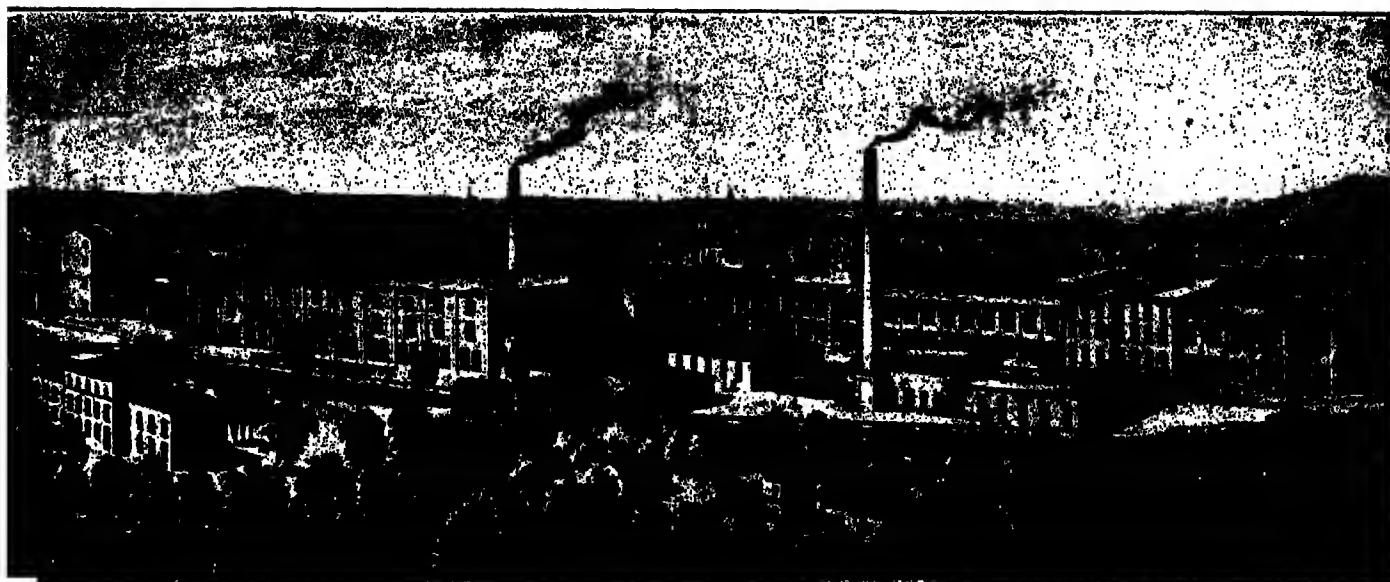
109, Victoria Street, Westminster, S.W.

TOKYO OFFICE:

3, Uchisaiwaicho Itohome
Kojimachi-Ku.

MONTREAL OFFICE:

212, Coristine Buildings.



A VIEW OF ONE OF OUR MILLS: YEARLY OUTPUT 24,000 TONS

Write for Samples & Quotations to

R. L. LUNDGREN,

ESTABLISHED 1874.

LIMITED.

113, Queen Victoria Street, London, E.C.

and at 2, ST. ANDREW SQUARE, EDINBURGH.

Telephone No: 6058 City (Two lines).

Telegraphic Address: "Lundgren, Cent. London."

Fine Folding Enamelled and Faced Boards
REELS or SHEETS.

Fancy Papers. Leather Papers.
Wood Pulp Boards and Middles.

Specialists for the FOLDING BOX TRADE

U.K. Trade and World Exports.

HIGHEST GRADE

GLUES

AND

GELATINES

Extensively used for
Paper-Making and Paper Coating.
 FREE OF GREASE AND ACID. MOST RELIABLE.

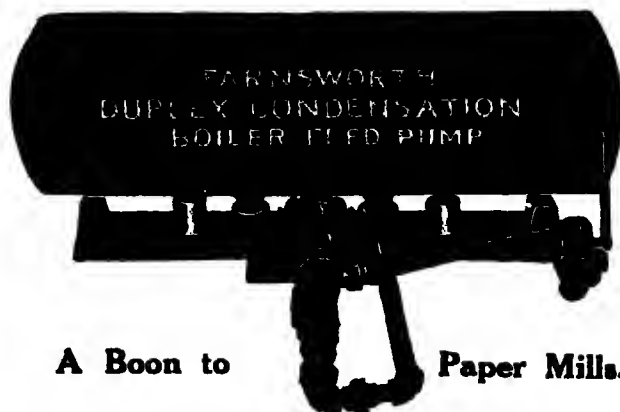
SUPPORT HOME INDUSTRY, AND SEND FOR SAMPLES TO THE MANUFACTURERS:

EDWARD GORTON, Ltd., PADDINGTON WORKS, **Nr. WARRINGTON.**

Branch Works : **CHESHIRE GELATINES,** Frodsham Bridge.

SAVE COAL

Improve your
**Drying
 Efficiency**

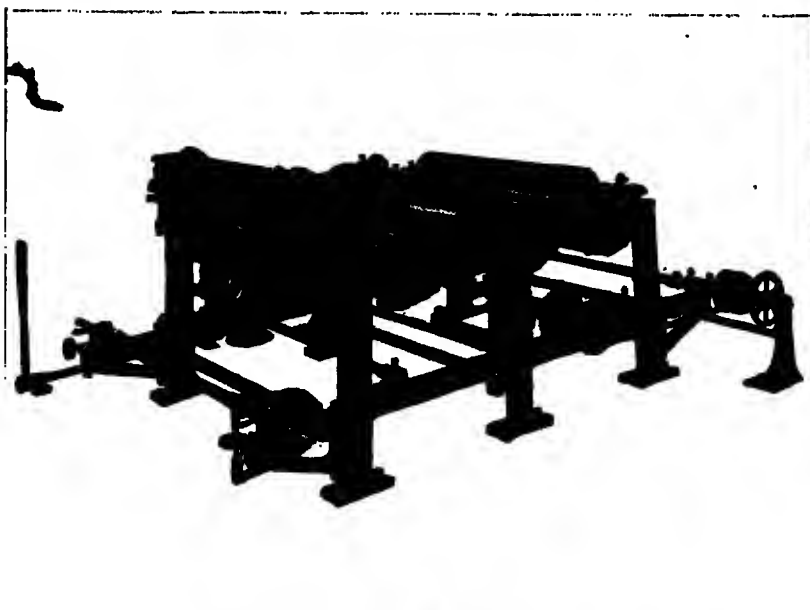


Eliminate your
**Condensation
 Troubles**

A Boon to Paper Mills.

GET CATALOGUE P. M. 6,
 SHOWING HOW IT'S DONE.

FAIRBANKS, MORSE & CO., LTD.,
 87, SOUTHWARK STREET - - LONDON, S.E.1.



BRUSHING MACHINE, SCREW ADJUSTING.

We also specialise in Woollen, Paper, and Cotton Bowls for the Paper Trade

Place your orders with a British Firm, and keep the Paper-Making Machine Industry at home.

We now specialise in all auxiliary Machinery for Paper Mills.

Complete Plants for Gelatine and Emulsion Plants for Photographic Paper.

Baryta Coating Plants.

Art Enamel and Tin Foil Coating Plants.

Rolling Machines.

Brushing Machines

Super-Calenders for all purposes, from 5 to 10 Bowls.

All Patterns and Designs of the above Machines can be supplied, also Electrical Equipment to drive the plant, if desired.

Park Works,
MANCHESTER.

Mather & Platt, Ltd.

Queen Anne's Chambers,
LONDON, S.W.

BERNER & NIELSEN

LONDON: 57, GRACECHURCH STREET, E.C.

Telephones:

London: Avenue 5435 (Two lines).
Manchester: City 1638.
Edinburgh: Central 53.
Paris: 141-12.
Brussels: 119-71.

Telegraphic Addresses:

"Berner, Grace, London."
"Berner, Manchester."
"Berner, Edinburgh."
"Nielsen, Paris."
"Bernielsen, Brussels."

PARIS:

24, Rue de Milan.

BRUSSELS:

28, Galerie de la Reine.

MANCHESTER:

38, Deansgate.

EDINBURGH:

13, George Street.

WOOD PULPS

Improvements in Calender Bowl Manufacture.

**Paper Bowls Built up on Patent
:: Anti-Slipping Principle. ::**

An Absolute Necessity for Wide Bowls.

**JACKSON & BROTHER, Limited,
Engineers and Calender Bowl Makers,
WHARF FOUNDRY, BOLTON.**

Telegrams:—"JACKSON, BOLTON."

Telephone:—No. 34 BOLTON.

Representative:—A. E. LEICESTER.



If you purchase a Straker-Squire Lorry, you buy a machine which is the result of 19 years' experience, every detail having had serious and critical consideration, every feature being subjected to severe and prolonged tests.

Pass us your orders and we will guarantee you satisfaction.

STRAKER-SQUIRE LTD.,

64, Angel Road, Edmonton,

LONDON, N.18.

Telephone: TOTTENHAM 2303 (10 lines).

Telegrams: "RHOMBODAI" TOTTENHAM, LONDON."

POCHINS

CHINA CLAY

For Papermaking and Coating

CHINA CLAY MINES, CORNWALL,
*Halviggan, Gothers, Leswidden,
 Ballewidden and Parsons Park.*
 Proprietors of the **PARK CHINA CLAY CO. LTD.**
 Selling Agents for
THE MCLAREN CHINA CLAY CO. LTD.



PACKING CHINA CLAY
HALVIGGAN MINE

Stores at
RUNCORN, PRESTON, LEITH, GLASGOW
and at all our works **WARRINGTON,**
FARNWORTH or WIDNES, SALFORD,
NEWCASTLE on TYNE & BRISTOL.

Telephone: 1802 Central, Manchester.
 Telegrams: POCMINS, MANCHESTER.

*one of the largest and
 most complete samples and prices*

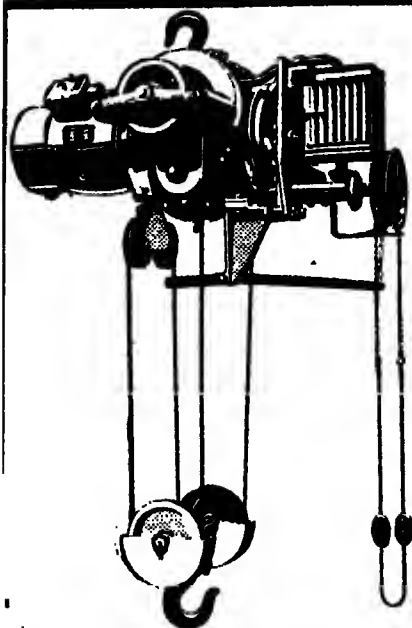


DRYING CHINA CLAY
HALVIGGAN MINE

Established over 100 years.

H. D. POCCHIN & CO. LTD.

SALFORD, MANCHESTER



THE VAUGHAN PATENT ELECTRIC BLOCK

SPEED-UP YOUR LIFTING WORK

THE VAUGHAN ELECTRIC BLOCK exactly satisfies a want which has been long felt in the Paper Making and Allied Industries, i.e., the need for a reliable, self-contained, and power-driven hoist, which can be slung up anywhere ready for instant use on the connection of a flexible supply cable, or when fitted to a trolley, for travelling on the bottom flange of an overhead "I" section runway track.

STANDARD SIZES:

5-Cwts., $\frac{1}{2}$ -Ton, 1-Ton, $1\frac{1}{2}$ -Tons, 2-Tons, 3-Tons and $4\frac{1}{2}$ -Tons.
Supplied for D.C. or A.C. 2-phase or 3-phase.

IT SOON PAYS FOR ITSELF.

A LABOURER CAN WORK IT.

Please ask for our Descriptive Booklet No. 6.

THE VAUGHAN CRANE Co., Ltd.

(FORMERLY VAUGHAN & SON, LTD.)

OPENSRAW, S. MANCHESTER.

Also Makers of Electric and Hand Power Travelling
Cranes, Overhead Runways, Hand Pulley Blocks, etc.

Telegrams "VAUNTING, MANCHESTER."

Telephones—250 OPENSRAW, 5113 CENTRAL.

A FEW USERS.

The Admiralty	London
The War Office	London
The India Office	London
The Ministry of Munitions	London
Darwen Paper Co., Ltd.	Darwen
Dixon, Peter & Co., Ltd.	Grimsby
Dickinson, J. & N., Ltd.	Heinzel Hempstead
The Empire Paper Mills, Ltd.	Greenhithe
Irish Paper Mills Co., Ltd.	Dublin
Spicer, James, & Sons, Ltd.	Maidstone
Thames Paper Co., Ltd.	Purfleet
Wallpaper Manufacturers, Ltd.	London
Etc., Etc.	

The "PROCTOR" Shovel Stoker and Patent Ram Feed Coal Elevator.

AN IDEAL COMBINATION for SAVING COAL AND LABOUR, increasing steam production, and giving a clean boiler-house. The Stoker as a result of over 40 YEARS' practical working HOLDS THE PREMIER POSITION amongst Mechanical Stokers, and gives the HIGHEST BOILER EFFICIENCY WITH THE LOWEST COST OF UPKEEP.

OVER
16,000
FURNACES
FITTED.

Messrs. OLIVE & PARTINGTON

AND

KELLNER-PARTINGTON PAPER PULP Co., Ltd.,

have adopted the "PROCTOR" Stoker and Coal Elevator at their
TURN LEE PAPER MILLS, GLOSSOP on 20 furnaces
BROUGHTON BRIDGE PAPER MILLS, MANCHESTER 8 ..
BARROW-IN-FURNESS PAPER PULP WORKS 16 ..

AND ALSO AT THEIR PAPER WORKS IN AUSTRIA.

BURNLEY PAPER WORKS CO., LTD. 4 ..
HENDON PAPER WORKS CO., LTD., SUNDERLAND 8 ..
NORTH WALES PAPER CO., LTD., FLINT 6 ..
YATES, DUXBURY & CO., LTD., BURY 4 ..

JAS. PROCTOR, Ltd., Hammerton Street Iron Works, Burnley

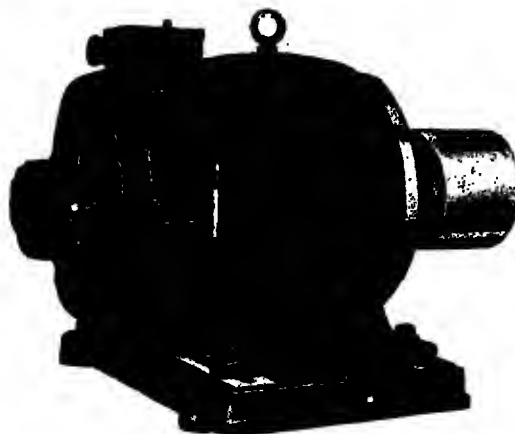
Direct Current **MOTORS**

for Paper Machinery.

Give steady speeds.
Perfect control.
Cut out waste.
Save space and money.

Manufactured in Ventilated or
Drip Proof patterns, and for constant
or variable speed by shunt control.

Of high-class design
at competitive prices



Electromotors Limited
OPENSHAW MANCHESTER

CLARKE, CHAPMAN & CO. LTD.

—Victoria Works—
GATESHEAD

General and Electrical Engineers and Boiler Makers

Water Tube Boilers ("Woodeson" Patents)

FOR ALL DUTIES

Pumps ("Woodeson" Patents)

IN ALL SIZES AND FOR ALL PURPOSES

Prices, Particulars and Catalogues on application

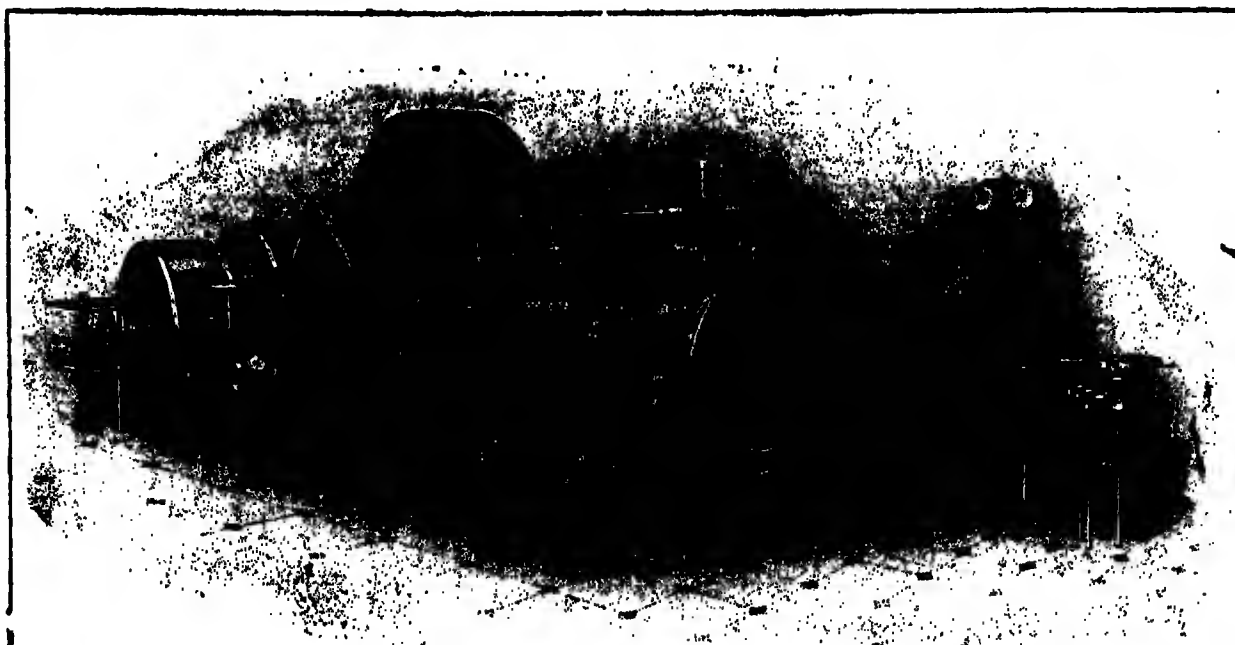
Telephones: 1070-1073 CENTRAL NEWCASTLE.
157 CITY

Telegrams
"CYCLOPS. GATESHEAD."
"CYCLOPS. FEN. LONDON."

JOHN MUSGRAVE

**Globe Iron Works,
BOLTON.**

Tel. Address :
"MUSGRAVE, BOLTON."
(A1,
Codes : A.B.C. 5th Edition.
BROOMHALLS.
Telephone No. 590 (3 lines).



For Economy, Reliability, and Compactness in Design, the
 _____ **"UNAFLOW"** _____
 Patent Steam Engine is the ACME OF PERFECTION.

Before deciding your Order send for our Descriptive Pamphlet.

Also
Makers of
**HIGH-
CLASS**

Horizontal and Vertical Steam Engines,

Fitted with "Stegan Patent" Equilibrium Drop Piston Valves, specially adapted for High Pressures and Highly Superheated Steam, with LOW Steam Consumptions, or fitted with Corliss Valves.

Lancashire Boilers, Up to 225 lbs. Pressure.

Condensing Plants,

Superheaters, Millgearing,

Pumping Plants, etc.,

The "Musgrave-Zoelly" Steam Turbine,

Over 500,000 h.p. at work.

VE & SONS LTD.



Makers of SPECIALITIES for PAPER-MAKERS

Vertical Wood Digesters.

Spherical Wood Pulp Digesters.

**Cylindrical and Spherical Revolving Boilers for Rags
and Straw.**

Vertical Boilers for Esparto.

Steam Chests for Anaglypta Paper Machines.

Caustic Pans.

**Cased Pans
and Tanks.**

Lord's Patent Manholes

For Cylindrical and
Spherical Revolving Boilers.

**YOUR ENQUIRIES
ARE SOLICITED.**



"THE CHINA CLAY TRADE REVIEW."

*The Official Organ of the
China Clay Industry.*

Published the 15th of each month.

PRICE 6d.

**Post Free British Isles, 7/6.
Colonies and Abroad, 10/6.**

The only monthly journal devoted to the interests of all engaged in the CHINA CLAY, AND STONE, BALL CLAY, FELSPAR AND ALLIED INDUSTRIES, and circulating amongst Potters Paper-makers, Chemical Manufacturers, Manufacturing Chemists, Bleachers, and other users.

PUBLISHING OFFICES :

9-10, SOUTHAMPTON BUILDINGS, HOLBORN, W.C.2.

S. C. PHILLIPS & CO.'S STANDARD PUBLICATIONS

**THE PAPER MAKER and
British Paper Trade Journal**

with which is incorporated

THE WOOD PULP MAKER.

An Independent and practical Journal for the Paper, Wood Pulp and Allied Engineering Trades.

Published on the 1st of each month. Price 1s. 6d.; by post, 2s. Annual Subscription, £1 1s., post free.

THE STATIONERY WORLD

**Printing and Allied Trades
and Fancy Goods Review,**

with which is incorporated

The Toy World and Games and Sports Record.

An Independent organ specially devoted to the Stationery, Printing, Toy, Fancy Goods and Allied Trades.

Published on the 1st of each month. Price 1s.; by post, 1s. 2d. Annual Subscription, 10s. 6d., post free.

THE PAPER BOX & BAG MAKER

Including

The Bookbinders' Journal.

The only Journal specially devoted to the Paper Box, Bag Making and Allied Trades.

Published on the 15th of each month. Price 1s.; by post, 1s. 2d. Annual Subscription, 10s. 6d., post free.

PHILLIPS' PAPER TRADE DIRECTORY OF THE WORLD

A mass of information for all engaged in the paper trade. Published Annually. Subscription, price £1 1s.

Offices : 47, Cannon St., E.C.4.

DYESTUFFS FOR PAPER TINTING.

**Auramine O. Methylene Blue BB.
Ponceau R. Acid Scarlet 2R.
Orange 11. Chrysoidine.**



**THE
SANDOZ CHEMICAL CO.
LIMITED.**

**9, VICTORIA CHAMBERS,
LITTLE HORTON LANE,
BRADFORD, YORKS.**

**24, TIE LANE,
CROSS STREET,
MANCHESTER.**

(Sole Consignees in Great Britain for Sandoz Chemical Works, Basle.)

Agents:

LONDON: Skilbeck Bros., 203, Upper Thames Street, E.C.4.
GLASGOW: Charles Hogg & Co., Royal Exchange Square
LEICESTER: A. W. Brook, 36, Charles Street.

ANDREWS & CO., LIMITED,

**BLACKFRIARS HOUSE, NEW BRIDGE ST.
LONDON, E.C.4.**

And at Manchester and Glasgow.

**Sulphite, Soda, and
Mechanical . . .**

WOOD PULP

**Telegraphic Address : "ARBORARIUS," Fleet, London.
Telephone Numbers : City 5013 & 5014.**

PENMAN & CO. LTD.

BOILER MAKERS.

Lancashire & other Types.

PAPER MILL REQUIREMENTS A SPECIALITY.

HIGH-PRESSURE ESPARTO & REVOLVING RAG BOILERS.

CALEDONIAN
IRON WORKS,

GLASGOW.

Telegrams:-
"PENMAN,
GLASGOW."

A.B.C. 5TH. EDITION
& ENGINEERING
TELEGRAPH
CODES.



London Office:-
SUFFOLK HOUSE,
LAURENCE POUNTNEY HILL, E.C.

Belgian State Railways and Mail Packet Service**Dover - Ostend Royal Mail Route****DAILY EXPRESS SERVICES (Sundays Included)**

BETWEEN

LONDON & BRUSSELS

ANTWERP, COLOGNE, LUXEMBOURG, etc.,

Via DOVER-OSTEND

SEA PASSAGE BY THE BELGIAN GOVERNMENT'S FAST TURBINE STEAMERS

The 24 Hours System for Railway Time (reckoning the hours from midnight to midnight), is used for all the Railway Times shown in this notice.

OUTWARDS.			HOMWARDS.		
		1, 2 & 3 class			1, 2 & 3 class
London (Charing Cross)	dep.	9.45	Brussels (Nord)	dep.	17.9
Dover (Marine Station)	arr.	10.35	Strasbourg	dep.	20.19
	dep.	11.20	Luxembourg	arr.	6.39
Ostend (Quay)	arr.	12.30	Cologne	dep.	4.55
Brussels (Nord)	arr.	13.45	Antwerp	dep.	23.30
Antwerp	arr.	14.45	Brussels (Nord)	arr.	5.0
Cologne	arr.	15.10	Ostend (Quay)	dep.	10.20
Luxembourg	arr.	21.22	Dover (Marine Station)	arr.	12.0
Strasbourg	arr.	1.45	London (Charing Cross)	arr.	14.0
Brussels (Nord)	arr.	1.0			
Antwerp	arr.	5.0			
Cologne	arr.	5.6			
Luxembourg	arr.	7.32			
Strasbourg	arr.	8.41			

The above Services are liable to alteration or cancellation without previous notice, and the Times are in Summer Time, both British and Belgian

Through Carriage Ostend to Antwerp, Cologne, Luxembourg and vice-versa. Sleeping Cars from Ostend to Cologne and vice-versa.

For further information, apply:

Mr. P. DEFRANCE, Delegate of the Belgian State Railways,

47, Cannon Street, London, E.C.4. Telephone No. 5711 Central.

For information and tickets apply to the Ticket Office of the Belgian State Railways and Mail Packet Service, 53, Gracechurch Street, E.C.3, or to the principal tourist agents in the United Kingdom.

For information regarding devastated districts in Belgium, apply to the Office Central d'Information, 34 Rue des Colonies, Brussels.

SOCIETY OF CHEMICAL INDUSTRY,**BASLE - - SWITZERLAND.****Largest Manufacturers of Aniline Colours outside Germany.****EMPLOYING OVER 3,000 PEOPLE.****SPECIALITIES FOR PAPER.**

SEND YOUR SAMPLES OF COLOUR FOR MATCHING TO THEIR AGENTS:

THE

CLAYTON ANILINE CO., LTD.,**CLAYTON - - MANCHESTER.****ANILINE DYES****SPECIALITIES FOR PAPERMAKERS.**

ACID YELLOW LD
NAPHTHOL YELLOW S
ORANGE GG
" RR
" I
" II
PONCEAU 4GB
" 2G
" R
" 5R
FAST RED B
CRYSTAL SCARLET
INDIGO CARMIN
MAGENTA
METHYL VIOLET
MALACHITE GREEN,
ETC.

THE LONDON DYE —MANUFACTURING CO., LTD.,—
86-94, High St., STRATFORD, E.15.

Telephone: Stratford 854.

Telegrams: "LODYMAKO, ROCHURCH LONDON."

DON'T WAIT**Until the War is over.**Now is the time to do **BUSINESS WITH SCANDINAVIA**, where trade, especially in Paper and Wood-pulp, has received an enormous impetus on account of the War, and where everyone is on the lookout for opportunities.An advertisement in a good Scandinavian Paper and Wood-pulp Journal would help you. **IF YOU ARE AN AGENT**, an advertisement would make your name more widely known throughout the trade in Scandinavia, or, **IF YOU ARE A MANUFACTURER OF MACHINERY OR PAPER-MAKERS' SUPPLIES** it would help you to get a good share of the Scandinavian Trade.

THE

"TIDSSKRIFT FOR PAPIRINDUSTRI"

is published in Christiania, Norway, and circulated throughout the trade in Norway, Sweden, Denmark, and Finland, and is also subscribed to by a number of English and American Firms.

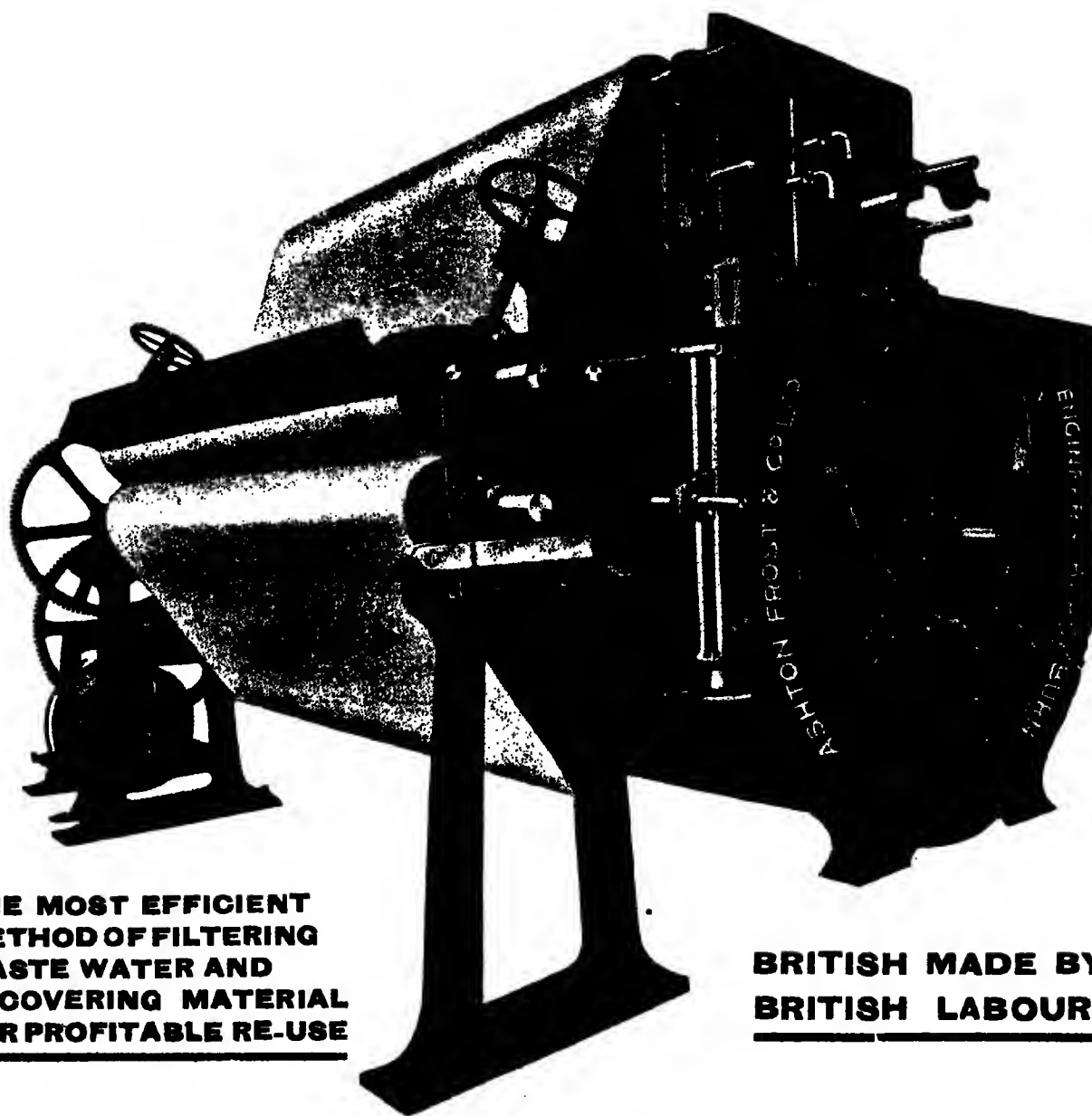
WRITE FOR ADVERTISING RATES AND A SPECIMEN COPY.

Information regarding the Scandinavian Markets furnished gratis

LONDON OFFICE:

GUMÆLIUS LIMITED,
SCANDINAVIAN ADVERTISING SPECIALISTS,
11, Arundel Street, Strand, London, W.O.2.

PATENT FÜLLNER FILTER AND SAVE-ALL



**THE MOST EFFICIENT
METHOD OF FILTERING
WASTE WATER AND
RECOVERING MATERIAL
FOR PROFITABLE RE-USE**

**BRITISH MADE BY
BRITISH LABOUR.**

DELIVERY FROM STOCK.

**ASHTON FROST AND Coy., Ltd.,
ENGINEERS,
BLACKBURN - - ENGLAND.**

W. RALSTON & CO.

LTD.,
CLOUGH ROAD WORKS,
MOSTON LANE, MANCHESTER.

Telegram: "RALSTONITE, MANCHESTER." Phone: 551 CHEETHAM HILL.

MANUFACTURERS OF

**Kraft Union Waterproof
Patent Packing,
Waxed Tissues,
Oil Papers,
Pitch Papers,
Etc. Etc.**

IN SHEETS OR ROLLS IN ALL STANDARD SIZES,
also in NARROW WIDTH REELS AND CIRCLES

SAMPLES AND PRICES ON APPLICATION

London Office:
30, BUDGE ROW, E.C.4.
(*Phone: CITY 8633).

COMPRESSED AIR IN THE PAPER INDUSTRY.

For conveying liquids from one floor to another, or for agitating or mixing fluids, etc.

For producing a current of air to keep calender rolls cool.

And for many other processes in the paper trade in which compressed air can be employed.

IS MOST EASILY & ECONOMICALLY OBTAINED

by the installation of a



AIR COMPRESSOR.

Compressors manufactured in London by:—

THE WESTINGHOUSE BRAKE CO., LTD.,
82, YORK ROAD, KING'S CROSS, LONDON, N.1.

Telegrams—Kraftship, Manchester.
Telephone—City 2458.

WESTWELL, Ltd.

Paper Importers
and Exporters,

Lloyds Bank Bldgs.,
King Street,
Manchester.

Wrappings

Krafts,
Sulphites,
Greaseproofs,
in Sheets or Reels.

LONDON OFFICE:—

97, Queen Victoria Street, E.C.4.

Telegrams—Papimpex, Central London.
Telophone—Central 8007

Telephone - - City 6115
Telegrams - - Anglonorse, Cent, London

ANGLO-NORSE PAPER AGENCIES LTD.

VULCAN HOUSE, 56 LUDGATE HILL
LONDON - - - - - E.C.4

Manager: F. A. MARSDEN

Sole Agents in the United Kingdom for
RENA KARTONFABRIK,
A/S RENA, NORWAY.

WOODPULP BOARDS FOLDING BOARDS.
DUPLIX AND TRIPLEX BOARDS.

Sole Agents (except Scotland) for
JARLSBERG PAPER MILLS,
CHRISTIANIA.

M/P & S/C PRINTINGS. WRITINGS.
BANKS. GLAZED AND UNGLAZED.
BONDS. IMITATION PARCHMENTS.

Sole Agents in England for
STANDARD PAPIRINDUSTRI,
A/S GULSKOGEN, NORWAY.
TOILET ROLLS.

**NOW
ON
SALE**

**PHILLIPS'
Paper Trade Directory
OF THE WORLD**

**FOR
1920.**

**Published
at**

21/-

by

S. C. PHILLIPS & CO., 47, Cannon Street, London, E.C.

ORDER AT ONCE TO PREVENT DISAPPOINTMENT!

PRICE & PIERCE, Ltd., LONDON.

WOOD AND PULP.

*Branches:—*Liverpool, Manchester, Glasgow and New York.

SITES for WORKS, FACTORIES WAREHOUSES, etc. ADJOINING THE G.W.R.

Numerous areas of land, admirably situated.

Good Water Supplies. Proximity to Good Markets.

This Railway is connected with some of the largest Steam, Anthracite, and House Coal Fields, many of the Principal Ports, and important and extensive Iron and Steel Producing Centres.

Information as to suitable sites, siding facilities, conveyance rates, etc., will be readily afforded on application to Mr. C. A. ROBERTS, Chief Goods Manager, Paddington Station, London, W.2, to whom Owners and Agents of Land and Premises for Sale or to be Let are invited to send particulars for insertion in the Register which is kept to enable information to be furnished to parties requiring sites, etc.

G.W.R. Paddington Station,
November, 1916.

CHAS. ALDINGTON, General Manager.

From Barrel to Beater



AMBER SIZE

Mr. R. W. SINDALL, F.C.S., says:

"This is about the best prepared Size I have seen."

WE guarantee a saving in any case—
whether you are making your own Size,
OR

Whether you are making your size by any patent
apparatus, OR

Whether you are buying a prepared Size.

We send our Expert to your Mill to prove this. He will
demonstrate the advantages, and show you how it is used.

We supply sufficient AMBER SIZE for the trial FREE OF CHARGE. We
take all responsibility for the Paper Sized with AMBER SIZE by our Expert

Sole
Agents: **FOX, STOCKELL & CO.,**
61, ST. MARY AXE, LONDON, E.C.

ADOPTED BY LEADING MILLS
because of the saving effected

CASEIN

FOR PAPER COATING.

NIEUWHOF, SURIE & CO., LTD.,

Head Office:

5, Lloyd Avenue,
London, E.C. 3.

Telephones:
AVENUE 34 & 35.

Works & Warehouses:

Aldgate Avenue,
London, E.

Telegrams:
"SURICOHON, CENT., LONDON."

Keep Your Wires Clean!!

Our **ROTARY CLEANING ATTACHMENT** for Paper Machine Wires is simple, efficient, and cleans wire whilst machine is running. Many in use, Write for particulars.

BRUSHES

for Art Tinfoil and
Coated Paper Makers

COATING AND STAINING BRUSHES
CIRCULAR-FEED BRUSHES
PAPER-DAMPING BRUSHES
BRUSHING & POLISHING CYLINDERS

John Dawson & Son

Eldon Brush Works, St. Philip St., LEEDS B 10123

THE Indentors' Guide

Pays Advertisers.

IF you wish to introduce your new products in

INDIA

or to increase the sale of your Old Products
Advertise in "THE INDENTORS' GUIDE,"
IT BRINGS RESULTS.

Its Special Feature is that Advertisers' Goods are
accepted in Contra, placed on the Market to
Advantage and Repeat Orders are regularly sent.

For Sample Copy and Rates address—

S. P. MASON, Bangalore, INDIA.

London Agents—STIRLING, MASON & CO., 114 Fenchurch Street, E.C.

L'Industria Della Carta:

via Principe Umberto, 24, MILAN

A Practical Journal for the Manufacture
of Paper and the Graphic Arts. ::

THE ONLY TECHNICAL JOURNAL THAT IS PUBLISHED IN ITALY.

It is recommended as being greatly appreciated
and having a wide circulation :: ::

The Editor-Proprietor, Mr. ENRICO TONIOLO, Milan, devotes him-
self specially to the sale of **MACHINES & MATERIALS**
connected with the manufacture of Paper and the Graphic Arts.

Catalogues and Offers Gladly Received.

GEO. F. HARDY,

Mem. Can. Soc. C. E., M. Am. Soc. M. E., Mem. Eng. Inst. Can.

PAPER MILL ARCHITECT
AND

HYDRAULIC ENGINEER.

REVALUATIONS. REPORTS.
WATER POWER DEVELOPMENTS.

309, Broadway, New York,
U.S.A.

HARDY S. FERGUSON,
CONSULTING ENGINEER,

200, FIFTH AVENUE, NEW YORK CITY.

MEMBER Am. SOC. M. E.

MEMBER Am. SOC. C. E.

MEMBER Eng. INST. CAN.

Paper, Pulp and Fibre Mills
including Buildings and Com-
plete Mechanical Equipment.

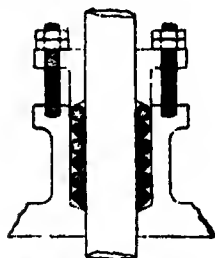
Water Power Development.

Dams, Storage Reservoirs and
Other Hydraulic Structures.

EXAMINATIONS
REPORTS

ESTIMATES OF COST
DESIGNS

SPECIFICATIONS
VALUATIONS



Patent Pactite Pump
Packing.

Patent Metallic Face
Steam and Hydraulic
Packing and Jointing
Materials.

SOLE MAKERS:

S. REDFERN & CO.,

Swan Lane, New Brown Street, MANCHESTER.

Telephone No.:
1154 CITY.

Telegraphic Address:
"METALLINE"

BOLETIN DE LA INDUSTRIA Y COMERCIO DEL PAPEL

A fortnightly Spanish Review of Paper-making and Trade generally.

The best Spanish Paper Review (prodigally illustrated), is published
on the 1st and 15th of every month, in 194 by 264 cm. size, with
more than 60 pages of letterpress on superfine glazed art paper.

Subscription price 15 fr. per year.

Terms for Advertising can be obtained upon application to our
representatives for the United Kingdom, viz.:-

S. C. PHILLIPS & CO.,

Publishers of "THE PAPER-MAKER"

47 CANNON STREET, LONDON, E.C.

Established 1858.

JEBB BROTHERS, Ltd.,

**IMPORTERS and
EXPORTERS.**

ADDITIONAL WAREHOUSES: BUXTON ST., CRAWHALL RD., CITY RD.

Head Office :

**32, Howard Street,
Newcastle-on-Tyne**

Telegrams :
Jebb, Newcastle-on-Tyne.
Jebb, Dewsbury.
Jebb, North Shields.

Telephone Nos.
3335 and 3336
CENTRAL, NEWCASTLE.
343 NORTH SHIELDS.
33 DEWSBURY.

CODES:
A.B.C. 4th, 5th, and 6th EDITIONS
and WASTE MERCHANTS' Code.



HOWARD ST. WAREHOUSES.

Warehouses :
HOWARD STREET, CITY ROAD,
AND CRAWHALL ROAD.

YORKSHIRE
WOOLLEN RAG DEPT. :
Carr Top Mills, Batley Carr,
Batley, Yorks.

DEPARTMENTS.

WOOLLENS.

New and Old Mungo and Shoddy
Rags, Cloth, Stockings, Merinoes,
Serges, &c.

WASTE RUBBER, ETC.

All Grades of Waste Rubber,
Curled Hair, Hair Basting, Second-
Hand Bags, Etc., Etc.

METALS.

Scrap Brass, Copper, Lead, Zinc,
Zinc and Lead Ashes, Scrap Iron
and Metals.

PAPER-MAKING MATERIALS.

New and Old Linen and Cotton
Rags, Ragging, Ropes, Twines,
Canvas and Waste Papers.

NO CONNECTION WITH ANY OTHER FIRM.

Having extensive warehouse accommodation, equipped with all modern requirements for dealing expeditiously with large quantities of goods, at Newcastle-on-Tyne (Station address, New Bridge Street), and Batley Carr, Yorkshire (Station address, Dewsbury), customers may rely upon their consignments, whether large or small, receiving prompt attention.

Dealers in Lancashire, Cheshire, and the Midland and Southern Counties, should consign their Woollen Rags of all descriptions to our Yorkshire Mungo and Shoddy Rag Department, Carr Top Mills, Batley Carr, Batley.

NOTICE.

We require live correspondents in all countries where PAPER and PULP is manufactured (excepting where already represented). Address all communications to :— S. C. PHILLIPS & CO., Head Office, 47, Cannon Street, London, E.C.4.

Edward Rushton, Son & Kenyon,

Auctioneers, Valuers and Fire Loss Assessors,
13, NORFOLK STREET, MANCHESTER. (Established 1895.)

Telephone Nos.: 775 City and 5623 City

Telegrams: "Rushions, Auctioneers, Manchester."

Undertake VALUATIONS FOR INSURANCE, and other purposes.

FIRE LOSS SETTLEMENTS

(On behalf of Assured only).

SALES BY AUCTION

of Mills, Works, Plant and Machinery and all work in connection therewith.

Average Yearly Valuations exceed £10,000,000.

Full Staff of Trained Expert Assistants employed.

R. R. WHITEHEAD & BROS., LTD.

Established 100 Years.

Manufacturers of every description of

FELTS

Telephone:

No. 63, Mossley.

Telegraphic Address:

"Whiteheads,
Greenfield, Oldham."

for Paper Makers.

Royal George Mills, GREENFIELD, near OLDHAM.

AXEL H. ÅGREN, GOTHENBURG, SWEDEN,

General Merchant and Forwarding Agent.

IMPORT OF IRON, STEEL AND METALS, CHEMICALS.

Telegrams: "GREN, GOTHENBURG."

ESTABLISHED 1887.

DANDY

PAPER
MACHINE
WIRES

PLAIN &
TWISTED
PRESSE PATE
WIRES

BACKING
CLEAVING &
WASHER
WIRES

DANDY
ROLLS

PAPER MACHINE WIRES.

F & G. W. STONIER & CO. LTD.

(Lancashire Wire Works)

Wire Manufacturers and Weavers

HARRIS STREET STRANGWAYS

MANCHESTER

ROLLS.

TELEGRAMS
INTERWEAVE

TELEPHONE
CENTRAL
5075

CODING AND
5" EDITION

Fullerton

MANUFACTURERS OF
EVAPORATORS
(FOSTER'S PATENT)
FOR
CAUSTIC SODA RECOVERY



Triple Effect and Finisher fitted with Multiple Feed Heaters

These Evaporators being cast in our own Foundry we are in a position to give good delivery.

Illustrated Catalogue on application

Fullerton, Hodgart & Barclay, Ltd.

PAISLEY

Telegrams: "Vulcan, Paisley."
Codes: A.B.C. 5th Edition;
Engineering; Western Union;
Marconi Inter.

ESTABLISHED 1838.

Telephones: 2163-4 Paisley.
Private Branch Exchange.

New Process of Silicate Cotton (Slagwool Covering)

Write for Estimates.

(Patent No. 13693).

LONSDALE BROS. LTD.,

Pump St. Works, Bank Top, BLACKBURN.

Boiler Covering Manufacturers and Contractors.

Specialities:

Solidified Slagwool Insulations. Engine Lubrication & Cylinder Casings.
Asbestos Coverings in all grades. Patent Removable Economiser Covers.
Magnesia, Sectional & Plastic Coverings. Flange & Valve Covers.

Telegrams: "PLASTIC, BLACKBURN."

Telephone No. 625.

SUET, Tallow of all grades now under control of Ministry of Food, Oils, and Fats.

An efficient **SUBSTITUTE** found in

**DIAMOND
HOT-NECK FIBRE GREASE**

for Heavy Calender Machine

BEARINGS.

Send for trial sample and "L" Illustrated Catalogue.

DIAMOND LUBRICATING CO., Ltd. WEAST, Manchester.

EDWARD KEMPSTER & SONS, Ltd.

GEORGE STREET, BURY, LANCs.

**Engineers and
Brassfounders.**

Specialities:

**PHOSPHOR BRONZE and
GUN METAL CASTINGS.**

PUMPS, VALVES, AND PAPER MACHINE ACCESSORIES.

Telegrams: "Kempster, Bury."

Telephone: 95 Bury.

"BON ACCORD" CENTRIFUGAL PUMPS

Any Capacity and Head, and for all purposes.

Driven by STEAM ENGINES (open and enclosed), ELECTRIC MOTORS, OIL ENGINES, BELTS, &c.

**HIGH-SPEED ENGINES (open and enclosed types)
FOR DRIVING DYNAMOS, FANS, &c.**

The "BON ACCORD" PUMP is specially adapted for Pumping Paper Pulp, Thick Viscous Liquids, &c.

DRYSDALE & Co., Ltd., YOKER, GLASGOW.

Telegrams: "Bonaccord, Glasgow."

Write for Catalogue.



MONTHLY EDITION IN ENGLISH.
WEEKLY EDITION IN SWEDISH.

SUBSCRIPTION: £1 PER ANNUM,
POST FREE.

The "Mercator,"

A Journal devoted to Finland's Industry and Trade, is the Best Advertising Medium in Finland, with its large Home and Foreign Circulation.

"MERCATOR" OFFICE, NYLANDSGATAN 3-5, HELSINGFORS.

CHINA CLAY (KAOLIN)

**For Paper-Making, Coating
and Chemical Manufacture.**

THE WEST CARCLAZE CHINA CLAY CO., LTD.,

Telegrams—
"PORCELAIN,
ST. AUSTELL."

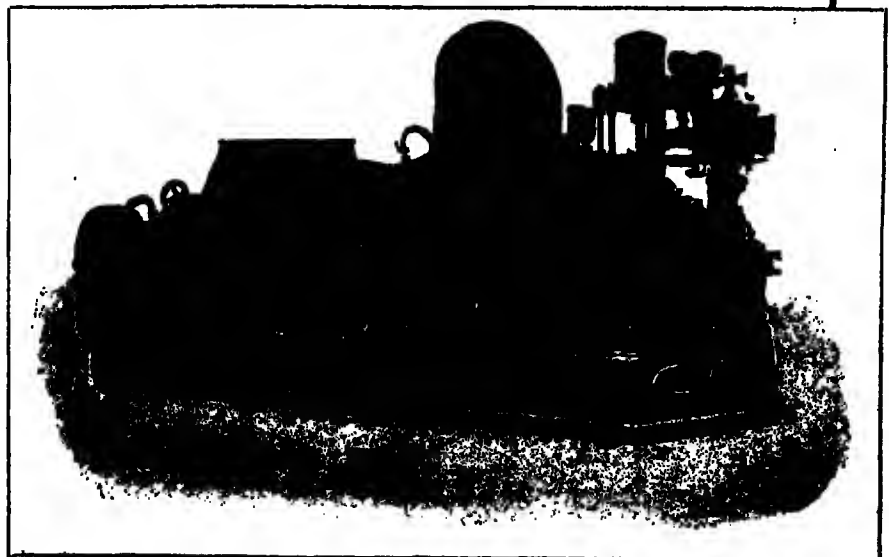
**China Clay Mine Proprietors,
ST. AUSTELL, ENGLAND.**

STEAM TURBINES

for ALL PURPOSES AND STEAM CONDITIONS

WE make a special
feature of Tur-
bines for Back Pressure
Work, with whole or
partial delivery of
steam against pressures
up to 60lbs. per sq. in.
Prices and particulars
on application.

Early Delivery.



PETER BROTHERHOOD, LIMITED
PETERBOROUGH

BENTLEY

Paper Maker

BURY

Telegraphic Address : "CALENDER, BURY."

Telephone No. : 340 BURY.

Codes Used : A I, A B C (8th) and Western Union.

SPECIALITIES.

Temperley & Wild's Breaking
Engine.

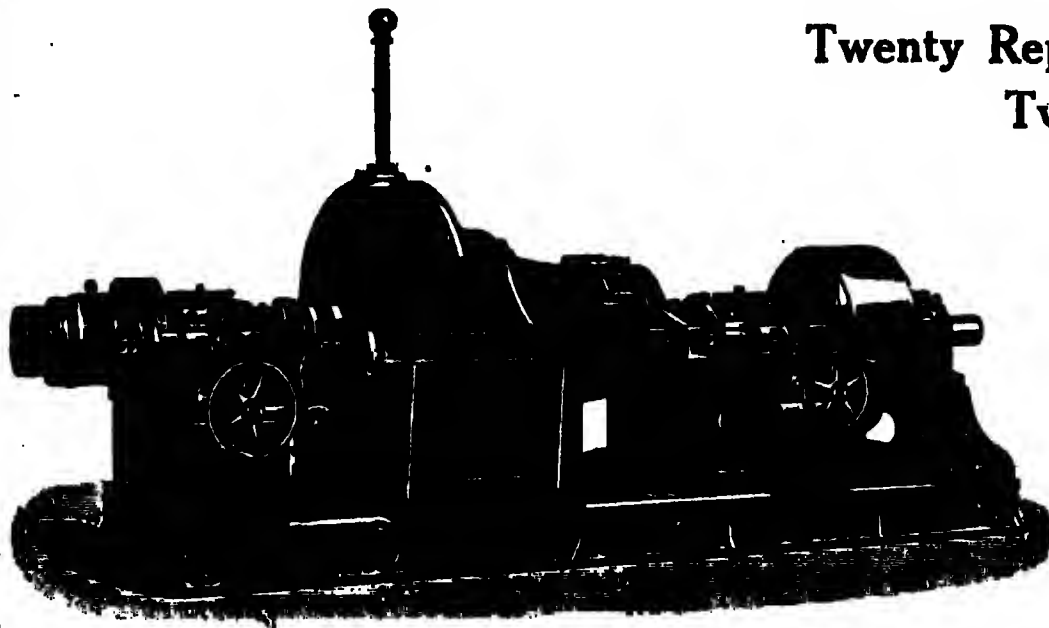
Marshall's Perfecting Engine.

Nuttall's Rag Cutters.

Reinecke & Jasper's Revolving
Strainer.

Coburn-Taylor &
Millspaugh Suct
Spray Pipe.

Smith's Vibratin
Seddon's Shake
Barnes's Spray



Twenty Repeat Orders
Twelve Mont

"MAR
REF
ENG

R & JACKSON

's Engineers,

**NEAR
MANCHESTER.**

Limited

**Fig. Cutter.
ton Roll and
Frame.
Regulator.
Damper.**

**in the last
tas.**

**"SHALL"
INING
INE.**

Helin's Patented Beating Material for Beater Rolls and Bedplates.

**"Marshall" Refiners and "Jordan"
Engines filled with this Material are
giving excellent results.**

**Especially successful in the beating
of Kraft Papers, and Strong Papers
from Sulphite, &c.**

**Is replacing Stone Beater Rolls in the
production of Imitation Parchment
and similar papers.**

**The Material can be fixed in existing
Beater Rolls.**

**Send size of Roll and Bedplate, we
will give price and all particulars.**

John Wild & Sons, Ltd.,

SPECIALITIES:

SUPER CALENDERED PAPERS
DRAWING PAPERS - - -
FERRO-PRUSSIAN CARTRIDGE
Glazed and Unglazed IMITATION
PARCHMENT - - - -
ENVELOPE PAPERS - - - -
BEST STAINERS - - - -
MANILLA CARTRIDGES - - -
Glazed White WAXING PAPERS
BUTTER PAPERS - - - -
TEA PAPERS, MIDDLES - - -
TAG OR LABEL PAPERS - -
CHROMO AND ENAMELLING
PAPERS
VARNISHING PAPERS - - -
PRINTINGS—White and Toned
M.G. BISCUIT CAPS - - - -
BOOK COVERS - - - -
BEST GLAZED CASINGS - -

PAPER MAKERS,

Broad Durers

Paper Works,

RADCLIFFE,

Near MANCHESTER.

Telegrams: "WILD, RADCLIFFE."

Telephone: 40, WHITEFIELD.

London Agent: **Mr. HENRY BURGESS,**
15, Dowgate Hill, E.C.

MILL No. 888.

WIFSTAVARFS AKTIEBOLAG,

Telegrams:
"WIFSTA
WIFSTAVARF."

WIFSTAVARF (Sundsvall District) Sweden.

FOUNDED 1799

SALES OFFICES: Kungsträdgårdsgatan, 10, STOCKHOLM.

Telegrams: "WIFSTA," Stockholm.

Manufacturers & Exporters of Chemical Wood Pulp.

STRONG SULPHITE
EASY BLEACHING Do.
EASY BLEACHING SODA
and STRONG SODA

W W K & W W
W W L
W W L
W W K

Brands

Annual Production
about 55,000 tons

Brands

" 22,000 "

AGENTS:

UNITED KINGDOM: PALMER, FLYGT & Co., 110, Cannon Street,
London, E.C.; and

ROB. ERIKSON & Co., Ltd., 73a, Queen Victoria St., London E.C.

FRANCE, SPAIN & PORTUGAL: LORENTZEN & GUTHEIT, 12, Rue
Boissy D'Anglas, Paris.

HOLLAND: OTTO J. FABER, Prins Hendrikkade, 20-21, Amsterdam.

BELGIUM: GROSS & IGENS, 20, Courte Rue des Claires, Anvers

The Watford Engineering Works,

Limited.

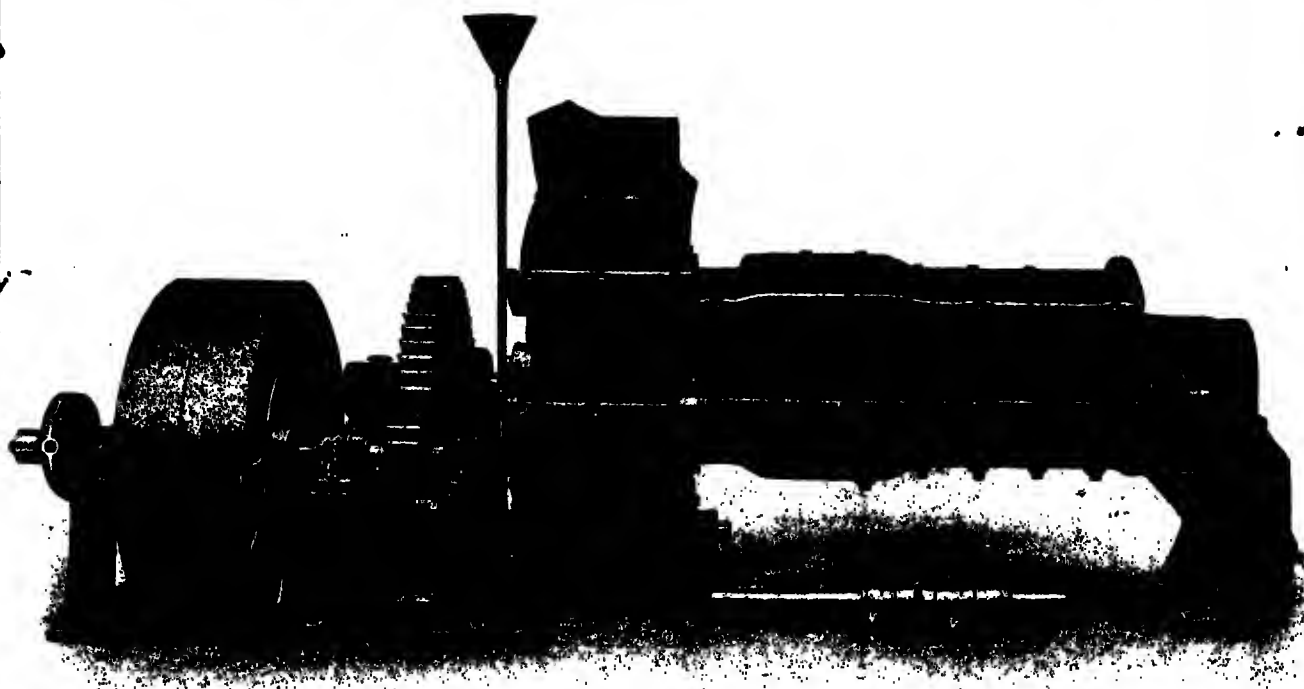
Established 1827 by Mr. GEO. TIDCOMBE, Senr.,

**PAPER MILL ENGINEERS & MILLWRIGHTS,
LOWER HIGH STREET, WATFORD.**

Telegrams: "Mechanical Watford."

Code --5th Edition A B C.

Telephone: 35 Watford.

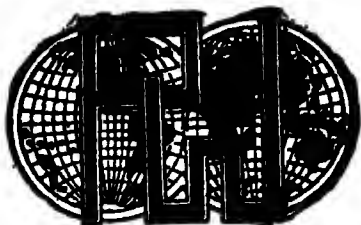


THE IMPROVED "Watford" Pulper.

**STRAINERS, STRAINER PLATES, DRUMS AND
CYLINDER MOULDS OF EVERY DESCRIPTION.**

**SPRAY DAMPERS, SLITTERS, FROTH KILLERS,
STUFF CHEST MIXERS, PULP SHREDDERS, Etc.**

"Leibers Standard, Western Union
and A.B.C. 5th Edition Codes."



PARSONS & WHITEMORE

(INCORPORATED)

Are Buyers and Sellers of

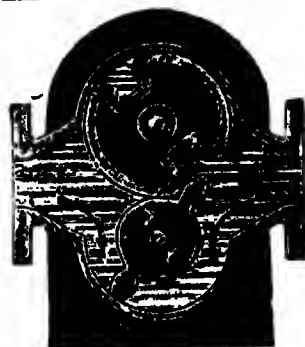
Sulphite Pulp & all Grades of Paper & Paper Mills Supplies.

Write them

Head Office: 299, BROADWAY NEW YORK, U.S.A.

Also At 30, MARKET STREET, SYDNEY, NEW SOUTH WALES; MELBOURNE, VICTORIA, AUSTRALIA;
CASILLA 2707, SANTIAGO de CHILE, CHILE, S.A. CALLE ALBINA 307, BUENOS AIRES, ARGENTINA.
32, ST. GEORGE STREET, CAPETOWN, SOUTH AFRICA. P.O. BOX 11307, HAVANA, CUBA. And Elsewhere.

Cable Address: "PARSWHIT."



THE 'Drum' Pump

(JOHNSON'S PATENTS).

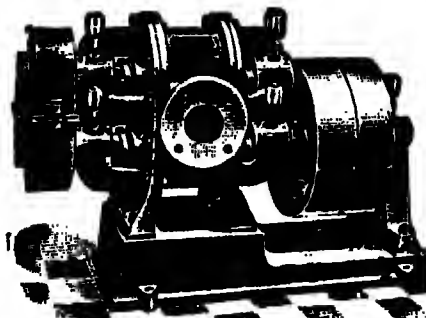
**Positive Action. High Efficiency.
No Valves.**

Fitted to the Suction Boxes of Paper Machines in
many of the leading Mills.

Telegrams—"Drum, Bradford." Telephone No. 2358.

Write for Catalogue
No. B1 to—

DRUM ENGINEERING CO., 28, HUMBOLDT STREET, BRADFORD.



S. C. PHILLIPS & CO.'S STANDARD PUBLICATIONS.

The Paper Maker
AND
British Paper Trade Journal

WITH WHICH IS INCORPORATED

The Wood Pulp Maker.
An independent and practical Journal for the Paper,
Wood Pulp, and Allied Engineering Trades.

Published on the 1st of each month. Price 1s.; by
post, 2s. Annual Subscription, £1 1s., post free.

**The Stationery World,
Printing and Allied Trades and
Fancy Goods Review,**

WITH WHICH IS INCORPORATED

The Toy World & Games & Sports Record.
An independent organ specially devoted to the
Stationery, Printing, Toy, Fancy Goods, and Allied
Trades.

Published on the 25th of each month. Price 1s.; by
post, 1s. 2d. Annual Subscription, 10s. 6d., post free.

**The Paper Box and Bag
Maker**

INCLUDING

The Bookbinders' Journal.

The only Journal specially devoted to the Paper Box,
Bag Making and Allied Trades.

Published on the 15th of each month. Price 1s.; by
post 1s. 2d. Annual Subscription, 10s. 6d., post free

Phillips' Paper Trade Directory of the World.

Price £1 1s., post free to all countries (except U.S.A.).

Chief Offices: **47, CANNON STREET, LONDON, E.C.**

Telegraphic and Cable Addresses: "SONISA, CENTRAL, LONDON."

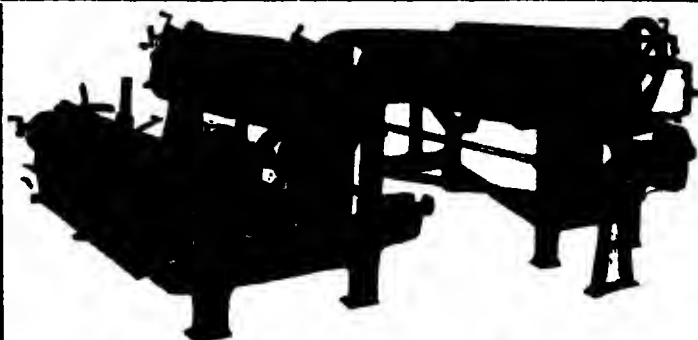
A.B.C. Code, 5th Edition.

Telephone: 5420 BANK.

Branch Office: **448 and 450, Produce Exchange, Manchester.**

Telegraphic and Cable Addresses: "SONISA, MANCHESTER."

Telephone: 14 CITY



TYPE 40 G. Semi and Full Wax Coating Machine.
Patented in United States. Also in Great Britain, Canada and
other Countries.

Paper Coating Machines

**Carbon Paper Coating Machines
Gumming and Gluing Machines**

This machine will coat one or both sides of the paper with the exact amount
of wax desired; with finest high gloss finish on self-coating bread wrappers, also
on both heavy or light papers; it can absorb the wax entirely into the paper or
retain most on the outside; also high grade dry waxed paper, and best grades of
waterproof and elled papers up to 72 inches wide, at a fast rate of speed.

Please submit your problems to our Engineering Department
for solution. This service rendered cheerfully and gratuitously
implying no obligation whatever.

MAYER COATING MACHINES CO., Rochester, N.Y., U.S.A.

Telephone Nos.—85 ECCLES.
 Telegrams—"BLUE," PATRICROFT.

ESTABLISHED 1840.

Hazlewood and Sons, Ltd.,

NELSON WORKS. PATRICROFT, near Manchester.

Enquiries Solicited for Home and Export for

ANILINE COLOURS

Prussian Blues (Paste and Powder)
 Indigo Blues
 Refined Indigo
 Indigo Substitute
 Indigo Extract
 Ultramarines
 Rosin

Smalts Blue
 Carbon Black
 Bark Extract
 Logwood Extract
 Hematine Paste and Crystals
 Turkey Red Oil
 Soaps

ROSIN SIZE and all Chemicals for the
 Paper and Allied Trades.



THE "ROBEY" PATENT UNIFLOW ENGINE.



The advantage of the ROBEY PATENT UNIFLOW ENGINE is that, in comparison with engines of the ordinary type, even of the highest class, the clearance spaces in the cylinder are not reduced in temperature, because the steam is compelled to flow in one direction only.

This means considerably increased efficiency, and the economy obtained in a Single Cylinder Engine of the Uniflow type is equal to that of a high-class Triple Expansion Engine.

There are other points in the design which are of interest, and we should like the opportunity of sending you a copy of our catalogue.

ROBEY & CO., Ltd., Globe Works. LINCOLN

CHARLES WAL

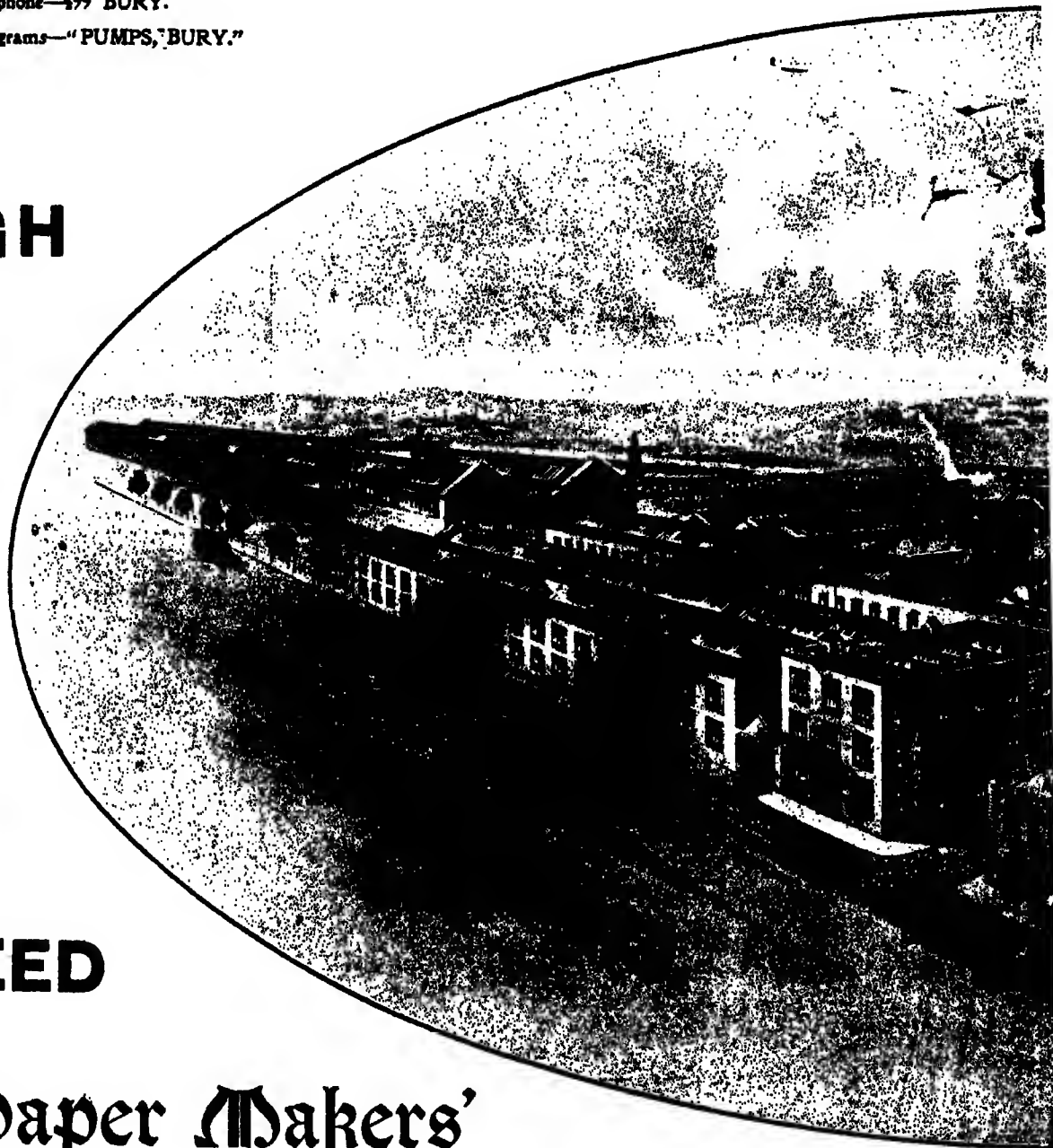
Telephone—499 BURY.

Telegrams—"PUMPS," BURY."

HIGH



SPEED



Paper Makers'
ATLAS WORKS,

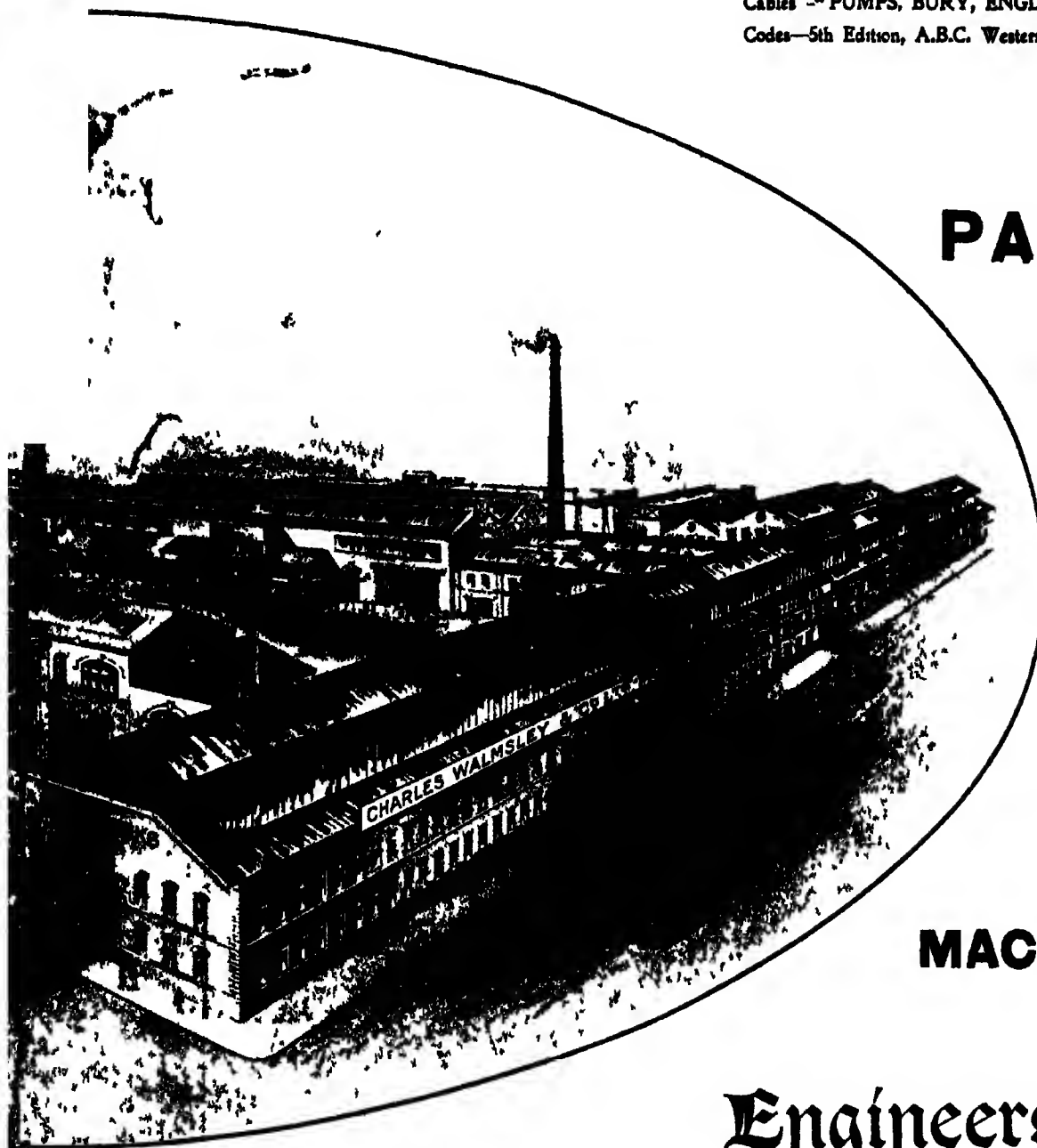
BU

WALSLEY & Co. LTD.

Cables - "PUMPS, BURY, ENGLAND."

Codes—5th Edition, A.B.C. Western Union.

PAPER



MACHINES

Engineers,

LANCASHIRE.

BURY,

WHITLEY PARTNERS,

Engineers and Brass Founders,
RAILWAY WORKS, LEEDS.

**Calender Bowls and Paper
Machine Rollers in Brass.**

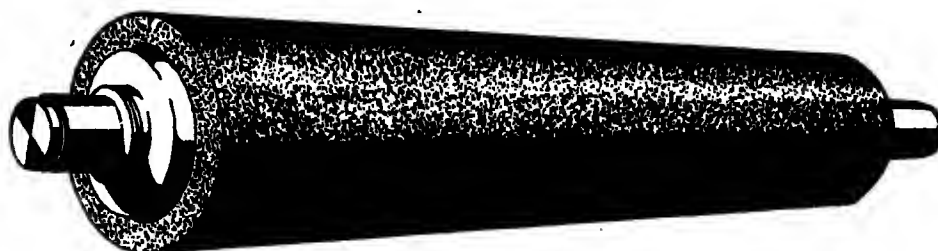
Paper-Makers should specify for

**Whitley's
Spun Brass Shells,**

Which are Unsurpassed in Density—being Non-Porous and Absolutely Free from Blow-Holes; are Economical in Price, and add practically nothing extra to the cost of Paper Machines.



Crystalline Stone Wet Press Rolls.



1,000 at Work.

R. J. MARX

(Late J. MARX & CO.)

133/139, FINSBURY PAVEMENT - LONDON, E.C.2.

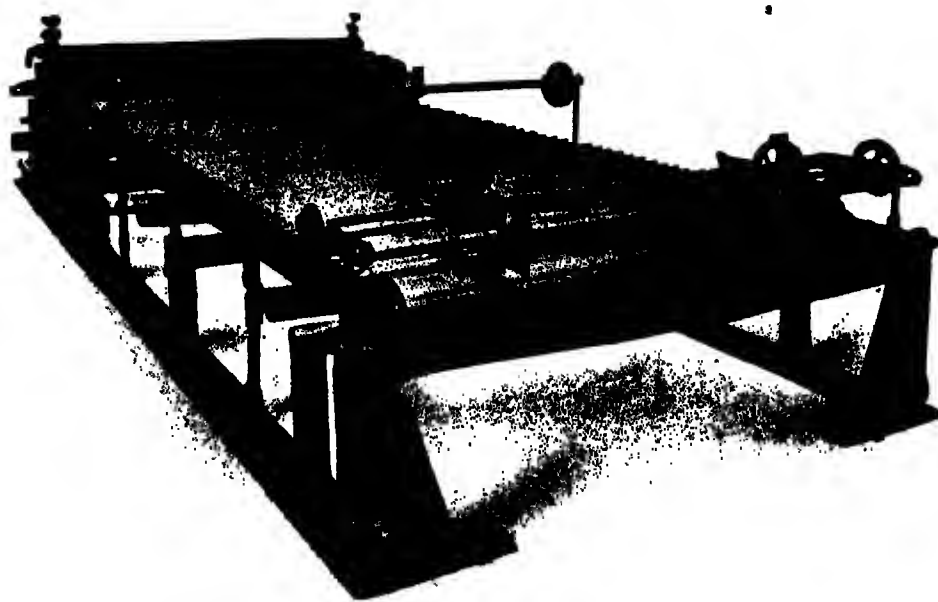


Engineering Works :
CORONATION WHARF,
TOWNMEAD ROAD,
FULHAM, LONDON, S.W.6.

Telephone: PUTNEY 2475
(2 LINES WITH PRIVATE EXCHANGE.)

Telegrams :
MASSOUN, WALGREEN,
LONDON.

PAPER MACHINES



1920 CONSTRUCTION

WE SPECIALISE IN PAPER & BOX BOARD MACHINES

JOHN M. WATSON & CO.

—CROWNPOINT WORKS—
87-89, DAVID ST, GLASGOW

SUPPLIERS OF

Paper-Making Materials

HOME AND EXPORT.

WASTE PAPERS—RAGS—NEW CUTTINGS
ROPES—JUTE—CANVAS—BAGGING.

*All our stocks graded to suit
Paper-makers' requirements.*

ENQUIRIES SOLICITED.

Telegrams & Cables: "Cellulose, Glasgow." Telephones: 66 & 3027 Brighton.
Codes: A B C (5th Edition), "Waste Merchants," "Western Union."

Wardill & Gilbert

formerly trading as

H. HUBER & CO.

12 & 13, Upper Thames Street
LONDON, E.C.4.

Telegrams:
"ASPEN, GENT, LONDON."

Telephone:
CENTRAL 2306.

Specialists in PAPER AND PULP.

Direct Correspondence Solicited
with Pulp and Paper Mills.

**Sole Agencies of British and
Foreign Mills undertaken.**

ROPE DRIVING

For EFFICIENCY and DURABILITY USE

KENYON'S



Illustrated
Lecture on

"The Transmission of Power by Ropes"

Post Free, on application to—

WM. KENYON & SONS, Ltd.

CHAPEL FIELD WORKS,
DUKINFIELD, ENG.

Telephone Nos.: 484 Ashton: 6818 London Wall.
Telegrams: "Kenyon, Dukinfield"; "Kenyoners, London."

LONDON OFFICE: 95 to 97, FINSBURY PAVEMENT.

BRANCH WORKS: ARMENTIÈRES, FRANCE.

(1)

The Oldest Trade Protection Office in the United Kingdom.

ESTABLISHED 1776.

PERRY'S TRADE PROTECTION OFFICES

(W. R. PERRY, LTD.)

26 & 27 BUSH LANE, CANNON STREET, LONDON.
WITH AGENTS AND CORRESPONDENTS THROUGHOUT THE WORLD.

Inquiries made as to the position and standing of Traders and others
in United Kingdom and Abroad.

PERRY'S GAZETTE AND LISTS OF CREDITORS

Are published weekly, and are invaluable to every one in business.

Names obtained of suitable Agents and Reliable Business Firms.

DEBTS RECOVERED AND PAID OVER PROMPTLY.

Telegrams:

"ELYOR, ADISHEAD."

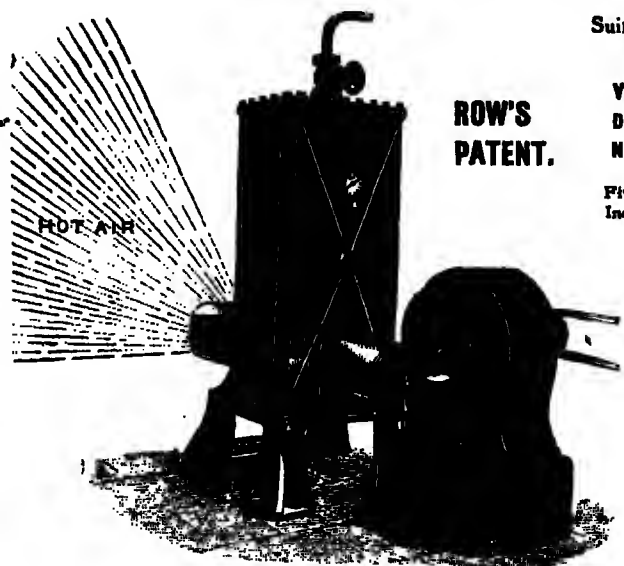
Telephone: No. 68, URMSTON,
and 6718 MANCHESTER.


Engineers and **IRLAM**, NEAR
Specialists, **MANCHESTER.**

SPECIALITIES:

FEED WATER HEATERS (Live and Exhaust Steam).
BOILING BATTERIES (Far Superior to Coils).
AIR HEATERS (For Drying Paper, Cloth, Yarn, &c.).
STEAM & GAS KETTLES (Boiling automatically controlled). **STEAM TRAPS.**
REDUCING VALVES. **AUTOMATIC RECEIVERS & PUMPS.**
WATER SOFTENING & FILTERING.

AIR HEATERS.

**ROW'S
PATENT.**Suitable for the Highest
Steam Pressures.**VERY COMPACT.
DUTIES GUARANTEED.
NO LEAKY JOINTS.**Fitted with Row's Patent
Indented Steel Tubes.**ROYLES PATENT
COMBINED:
REDUCING AND
SAFETY VALVE.**At the Price of
Reducing Valve only.**ABSOLUTELY RELIABLE.
THOUSANDS IN USE.**All Sizes in Stock,
from 1-in. upwards,
for all pressures.**ROYLE'S PATENT
"SYPHONIA"
STEAM TRAP.**Simple, Reliable, Self-Adjusting,
at all pressures from 0 to 200 lbs.Over 125,000 Sold.
Hundreds in Stock.

All Sizes from 1-in. to 3-in.

ROYLES GRAVEL FILTER.

**SIMPLE WORKING.
EASY CLEANSING.
NO ROTATING ARMS.
NO POWER REQUIRED.**

The Most Efficient and Reliable Filter
for Continuous and Repeated Filtration
of Turbid or Muddy Water.**FILTERING MATERIAL NEVER REQUIRES RENEWAL.**

**WATER SOFTENING,
IRON REMOVING, and
DE-OILING PLANTS.**



WRITE FOR LISTS AND REFERENCES.

OVER 5,000 PLANTS IN ACTUAL WORK GIVING ENTIRE SATISFACTION.

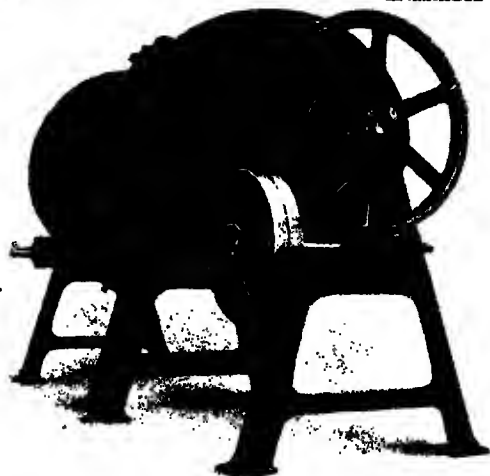
LORD'S BARNBROOK

(Late J. E. & R. LORD),

Barnbrook Boiler Works, BURY,
Near MANCHESTER.

Telephone No. 226.

Established 1842.



REVOLVING GLOBICAL BOILER for Rags and Gun Cotton.

Specialities :

CYLINDRICAL and SPHERICAL REVOLVING BOILERS
and DIGESTERS for Paper and Wood Pulp.

HIGH PRESSURE STEAM BOILERS.

Telegrams: "Giles, Leith."

Telephones: Nos. 213 and 214.

E CHALMERS & CO., LTD.,
BONNINGTON, LEITH.



Linen Rags. Cotton Rags. Canvas.
Hemp Ropes. Manilla Ropes.
Jute and Flax Bagging.

Waste Papers. Strawboard Cuttings.
Paper Shavings (Cream, White, Coloured, &c.)
&c., &c. All thoroughly well classed.

ENQUIRIES INVITED.

SAMPLES ON APPLICATION.

N.B.—CASH OFFERS made for Disused Paper
or other Works for Dismantling purposes.

Scrap Metals (Iron, Brass, Lead, Zinc, &c.), Waste Rubber, &c., &c.,
purchased for prompt cash.

John W. Leitch & Co.

Milnsbridge Chemical Works,

Nr. HUDDERSFIELD,

MANUFACTURERS OF

**Coal Tar Dyes for
Paper-Makers.**

Telephone Nos.:

189 & 190 Milnsbridge.

Telegrams:

"Leitch, Milnsbridge."

Samuel O'Neill

and Sons, Ltd.

LINDEN MILL.
CASTLETON,
LANCASHIRE.

Makers of

**Strawboard Centres
for Paper Makers.**



*My Card
Gentlemen!*

**A Few
Breezy Remarks by
SIR-OCOO**

THE reason I am here, gentlemen, is to talk about profits from air, but this in no way implies long-winded argument, nor ethereal statements that cannot be substantiated.

Do you notice the Fan at my feet? It is a member of the famous family of SIROCCO FANS, which will blow profits right into your Works.

The story of how it is done is already prepared for you, and on receipt of your name and address, with the nature of your business, full explanations will be sent to you by my firm.

... TRADE ...
SIROCCO
... MARK ...
FANS

Makers of Sirocco Fans
DAVIDSON & CO. LIMITED, Sirocco Engineering Works BELFAST.

ESTABLISHED 1848.

THORNTON & CO., LTD.

**India Rubber Manufacturers,
4, HANOVER STREET, EDINBURGH.**

Makers of all kinds of Rubber Goods required in a Paper Mill

The "Amazon" Driving Belt. Deckle Straps.
Strainer Diaphragms. Machine Aprons. Valves.
Delivery and Suction Hose.
Hat Shaped Rubbers for Rotary Strainers.

BALATA BELTING.

Telegraphic Address: "THORNTON, EDINBURGH."

CODES: A.B.C. 4th and 5th Editions.
Lieber's 5-letter. Marconi International.

Telegrams: "KENYON, BURY."

James Kenyon & Son
LIMITED.

**PAPER-MAKERS'
FELTS.**

**Derby St. Mills,
BURY.**

Nyhamns Cellulose Aktiebolag, Lundsarb.



K I N N E A R
PATENT STEEL ROLLING
S H U T T E R S

for
Car and Bus Depots,
Generating Stations,
Boiler Houses,
Harbour Warehouses,
Core Ovens,
Garages, and
Entrances Generally.

On Admiralty, War Office, and other Lists.

ARTHUR L. GIBSON,
Radnor Works, TWICKENHAM.

GLASGOW:
121, West George Street.

MANCHESTER:
90, Deansgate.

**Russo-British
Chamber of Commerce
PETROGRAD.**

An Association of English and Russian
Business Men, mutually interested in
Anglo-Russian Trade.

The First Chamber of Commerce in Russia.

Working in conjunction with the
RUSSIAN SECTION OF THE LONDON
CHAMBER OF COMMERCE.

Membership about 1,200.

**AGENCIES and CORRESPONDENTS in all the large
Centres of Russia, Great Britain and her Colonies.**

Members receive: Free information on
questions of Commerce, Industry,
Agriculture and Finance relating to
the Russian and British Empires,
printed in English and Russian; Free
Copy of the Monthly Journal of the
Chamber; Free Insertion of Inquiries
in the Journal, and many other privi-
leges.

For further particulars apply to:-

**THE SECRETARY, RUSSO-BRITISH CHAMBER OF COMMERCE,
4, Gorochevna, PETROGRAD.**

**ACETATES
OF
LEAD.**

White and Brown.

PROCTER, JOHNSON & Coy.
17, Withy Grove, MANCHESTER.

DELIVERY FROM STOCK.

FRENCH CHALK.
Papermakers' Quality.**OXIDE OF IRON,
BLUES, BLACKS,
& ALL COLOURS.**

We Had to Move.

Our old premises were crowded out, so we have built and equipped new and extensive premises, which—like the Packing—are the finest of their kind in the world. We pioneered the Metallic Packing business; we proved to engineers the economy secured by using our products, and we still remain where we have always been—right in the front.

When you think of PACKINGS the first name to occur to you will, without doubt, be

The United States Metallic Packing Co., Ltd.

SOHO WORKS, Allerton Road, BRADFORD.

Telegrams: "Metallic, Bradford."

Telephones: 4705, 4205.

W. S. BARRON & SON, LTD., Engineers, GLOUCESTER, ENGLAND.

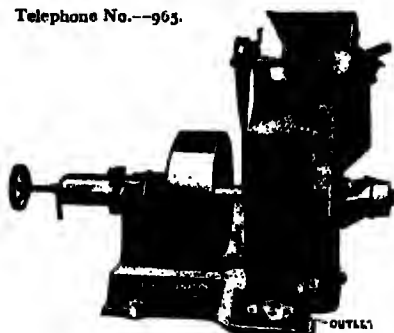
Telegraphic Address: "Barron, Gloucester."

Cable Code, A B C, 5th Edition; and Marconi International Code

Telephone No.—965.

SPECIALITIES:

Crushing, Grinding, Dressing,
Sifting, Mixing, Drying, Damp-
ing, and Conveying Plants.



PATENT "DREADNOUGHT" GRINDER.

All productions are made at our own Works of the very best material and workmanship, under our personal supervision.

Indents accepted direct against Cash in London or through Merchant Service.

BARRON'S PATENTS { "DREADNOUGHT" GRINDERS
IMPACT GRINDERS
DOUBLE PULVERIZERS
"DREADNOUGHT"
MILLSTONES.

Thousands in use all over the World.

Your enquiries are respectfully solicited.



PATENT IMPACT GRINDER.

GALLOWAYS

**LTD., Knott Mill Iron Works,
MANCHESTER.**

Telephone: 6312-3-4 CENTRAL.
Telegrams: GALLOWAY, MANCHESTER.

PATENT

UNIFLOW

**Steam Engine
FOR PAPER MILLS**



Write for particulars.

GROSE & STOCKER, STOKE-ON-TRENT.Established
over 60 years.All qualities of **CHINA CLAY** for Paper Makers.

Special qualities for Coating.

Also PEARL WHITE, MINERAL WHITE, and TERRA ALBA of the finest qualities.

Stocks kept at FLEETWOOD, GARSTON, RUNCORN.

Sub-Office: 9, Hopwood Avenue, Market Place, MANCHESTER.

Telephone: 612.

Samples and Prices on Application.

Telegrams: STOCSEA, STOK-ON-TRENT.

Telegrams: "HIGGINBOTTOM, SALEM NEW MILLS.

MANUFACTURERS OF

National Telephone: No. 12 NEW MILLS

ROSIN SIZE FOR PAPER-MAKERS.

Also Rosin Size (any strengths) Oleines and Soluble Oils, Red Liquors, White Softening, Bleaching Pastes, etc., etc.

G. & E. HIGGINBOTTOM, LIMITED,**Salem Chemical Works, NEW MILLS, near STOCKPORT.****MANCHESTER CHINA CLAY CO., Ltd., 4 ST. ANN'S SQUARE, MANCHESTER.**Telegrams:
"M. C. C.," Manchester.
Nat. Tel.: 3086.**JOHN WILLIAMSON, Manager, Royal Exchange, No. 23, Manchester.**

Representatives for Scotland: W. G. TAYLOR & CO., Ltd., 29, St. Andrew Square, Edinburgh.

Trade Mark
Registered.All Qualities of **China Clay** Used by
Paper Makers

Mines: ST. AUSTELL, CORNWALL.

Stocks at Manchester, Runcorn, Preston, and Leith.

CHARLES BAKER & Co., Paper Makers' Agents,**77a, QUEEN VICTORIA STREET, LONDON, E.C.**

Telephones—City 4723—4724 (2 lines.)

Telegrams—"Glazed, Cent London."

SPECIALITIES:—

WHITE and SUPER CALENDERED PRINTINGS, WRITINGS, BANKS, CARTRIDGES, GREASEPROOFS, IMITATION PARCHMENTS, KRAFTS, BROWNS, M.G. POSTERS, VEGETABLE PARCHMENTS, CAPS, &c.

SOLE AGENTS FOR—HARTLEPOOL'S PULP & PAPER CO., LTD.
(Midland Counties & London)

Established 1810.

Telegrams, "Dyestuff, Manchester."

Post Box, 455 Manchester.

Telephones, 1313 and 1314 City.

MILLWARDS MERCHANDISE LTD.**14a, Blackfriars Street, MANCHESTER.****CHEMICALS, COLOURS & REQUISITES
FOR PAPER MAKERS AND STAINERS.****A New 1920 Edition is now on Sale.
Phillips' Paper Trade
Directory of the World.****THE MOST COMPLETE PUBLICATION EXTANT
CONNECTED WITH THE PAPER TRADES.**

Price 21/- Post free.

Publishing Office: 47, CANNON STREET, LONDON, E.C.4.

Brunner, Mond & Co.

LIMITED.

NORTHWICH, CHESHIRE, ENGLAND.



The Strongest and Purest form of the Article in the Market
and therefore the most economical for the use of Paper-Makers.

CAUSTIC SODA.

Exceptionally
Pure.

76/77% 70/72% 60/62%

High
Strength.

The CULTER MILLS PAPER CO., LTD.

Telegraphic Address:
"NINEMILL, LONDON."

Telegraphic Address:
"NINEMILL, PETERCULTER."

Manufacturers of

Art Papers and Boards

Dull and Bright Enamels

Cloth-Lined Papers & Boards

F.S. Writings and Printings

Sensitized Cheque Papers.

Superfine Tinteds

Tub-sized Writings

Imitation Hand-made with

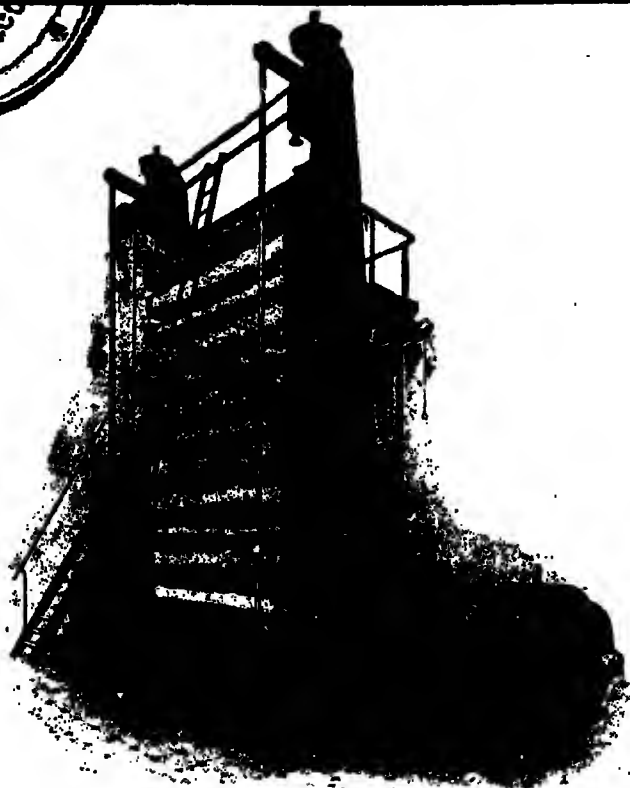
Deckel Edge for Notepaper
and Fine Book Work

LONDON WAREHOUSE: 218, UPPER THAMES STREET, E.C.
WORKS—CULTER, PETERCULTER, ABERDEENSHIRE. MILL No. 9.

OUR Super Calenders

STAND ALONE
FOR
EXCELLENCE
OF
WORKMANSHIP
AND DESIGN

Sir James Farmer & Sons
ADELPHI IRONWORKS
- - SALFORD - -



12-Roll Super Calender

THE Paper-Maker AND British Paper Trade Journal.

WITH WHICH IS INCORPORATED

THE WOOD PULP MAKER.

THE INDEPENDENT AND PRACTICAL JOURNAL FOR THE PAPER AND WOOD PULP TRADES.

Vol. LX.—No. 1.

JULY 1, 1920.

ONE SHILLING AND SIXPENCE.

(By post 2/6.)

CONTENTS.

LITERARY.	PAGE
British Newspaper Representatives in Finland ..	2
The Technical Section of the Papermakers' Association ..	2
Paper Mill Amalgamation in Canada ..	2
Paper Boards, Limited ..	3
Paper from Peat ..	3
LEADER: Wood Pulp Problem: My Note Book ..	5
British Wood Pulp Association—Annual Meeting and Dinner ..	15
Pulp and Paper Industries of Canada ..	81
Future of Canada's Woodpulp Supply ..	33
China Clay Industry ..	35
Handsome Gift by Messrs. Ed. Lloyd, Ltd. ..	36
Applications for Patents ..	36
Sir Frederick Bowater's Knighthood ..	37
Paper Situation in Sweden ..	38
Action for Infringement of Patent Mrs. Walter Wild, J.P. ..	39
Complimentary Luncheon to Mr. John Eberstein ..	41
Newspaper Workers and Paper-makers ..	42
America's Exports of Paper ..	42
Our Stuff Chest ..	43
Northern Notes ..	47
Printers and the Paper Situation ..	48A
The Paper Shortage ..	48A
Openings for British Paper Trade ..	48B
New Company Registrations ..	48B
Interesting Golf Match ..	48C
Customs Regulations and Tariff Changes ..	48C
Stratton's Social Society: Golf Match ..	48D
Colthrop Board and Paper Mills ..	48D
French Paperstock Co. ..	48E
Messrs. Felber, Jucker & Co., Ltd. ..	48F
New Capital Issues ..	48F
Belgian Papermaking Industry ..	48G
The Paper Making Industry ..	48G
Freemasonry ..	48H
Albert E. Reed & Co., Ltd. ..	48H
Twenty-four Years Ago ..	49
Scottish Notes ..	49
The Markets ..	53
Finance ..	55
THE WOOD PULP MAKER—Supplement.	
The American Paper and Pulp Association ..	57
Australian News ..	59
Increases in Price of China Clay ..	59
Canada's Pulp and Paper Industry ..	60
Twenty-seven New Mills for Canada and U.S.A. ..	60
The Wood Pulp Markets ..	61
Suggested Manufacture of Wood-pulp in Argentina ..	61
Board of Trade Returns—Imports ..	62
China Clay Workers' Wages ..	64
Board of Trade Returns—Exports ..	66
General and Foreign News ..	68
Canadian Enterprises in Australia ..	68
Foreign Letters ..	70
Seaweed for Papermaking ..	70
American News ..	72
Canadian News ..	73

Agren, Axel, H. ..	120
Aktieselskabet Phoenix Papirfabrik ..	63
Andrews & Co., Ltd. ..	110
Andriese, Ed. J. ..	73
Anglo Norse Paper Agencies, Ltd. ..	114
Ashbrooks, Limited ..	63
Ashton, Frost & Co., Ltd. ..	113
Auld & Sons, Ltd., David ..	89
Ayers, Ltd. ..	130
B. A. T. & T. J. ..	91
Baker, Charles, & Co. ..	142
Barron, W. S., & Son, Ltd. ..	141
Becker & Co., Ltd. ..	56
Belgian State Railways ..	112
Bannis, Rd., & Co., Ltd. ..	50
Bentley & Jackson, Ltd. ..	124, 125
Berner and Nielsen ..	163
Bertram, James, & Son, Ltd. ..	54
Boletin de la Industria y Comercio del Papel ..	118
Boving & Co., Ltd. ..	65
Bowater, W. V., & Sons, Ltd. ..	67
Briwco & Co., Ltd., Chas. ..	102
British Dye Stuffs Corporation ..	28
Brotherhood, Peter, Ltd. ..	123
Brown & Forth ..	83
Brunner, Mond & Co., Ltd. ..	143
Cameron & Co. ..	75
Cadwell, J. L., & Co., Ltd. ..	73
Carlaw & Sons, David ..	86
Carmichael, Peter, & Co. ..	90
Chadwick, Lunt & Co. ..	48
Chalmers, E., & Co., Ltd. ..	138
Chemical Engineering Co. ..	130
China Clay Trade Review ..	110
Christie, Geo., Ltd. ..	1 Cover
Church, Geo., & Co., Ltd. ..	16
Clarke, Chapman & Co., Ltd. ..	107
Clayton Anilina Co., Ltd. ..	112
Clugg & Son, Lewis ..	60
Cole, Marchant & Morley, Ltd. ..	89
Cookson Bros. ..	46
Crookes, Roberts & Co. ..	131
Culter Mills Paper Co., Ltd. ..	144
Davidson & Co., Ltd. ..	139
Davies, G. E., & Co. ..	130
Dawson, John, & Son ..	118
Diamond State Fibre Co. ..	84
Drum Engineering Co. ..	128
Drvdale & Co., Ltd. ..	122
Drake & Gorham ..	78
Duxbury & Sons, Ltd., Yates ..	6
Eburite Paper Co., Ltd. ..	52
Edwards & Sons, Ltd., W. D. ..	82
Eggers Knut ..	84
Electro Bleach & By-Products, Ltd. ..	69
Electromotors Ltd. ..	107
English China Clays, Ltd. ..	18
and front cover ..	
Eisher Wyss & Co., S.A. ..	100
Evans, Norman ..	84
Farmer, Sir James, & Sons, Ltd. ..	144
Featherstone, Henry ..	122
Feculose Co. ..	74
Felber, Jucker & Co., Ltd. ..	85
Fernstrom, Erik ..	87
Ferguson, Hardy, S. ..	118
Forrester Paper Co (1917), Ltd., The ..	80
Fox, Stockell & Co. ..	117
Forth & Clyde Coal Co., Ltd. ..	44
Fraser & Chalmers Eng. Works ..	100
French Paper Stock Co. ..	76
Fullerton, Hodgart & Barclay, Ltd. ..	121

ADVERTISEMENTS.	PAGE
Galloways, Ltd. ..	141
Gibson, Arthur L. ..	140
Goovevan China Clay & Stone Co. ..	140
Gordon, Watts & Co. ..	iv Cover
Gorton, Edward, Ltd. ..	102
Gota, Shift A/D ..	4
Great Western Railway ..	116
Green & Son, Ltd., E. ..	69
Greenhalgh & Co. ..	96
Grose & Stocker ..	142
Gumallus, Ltd. ..	113
Haudelsfirman Solo ..	90
Hardman, Thos., & Sons, Ltd. ..	30
Hardy, Geo. H. ..	118
Harpers, Ltd. ..	i Cover
Hazelwood & Sons, Ltd. ..	129
Helsingfors Export A/B ..	90
Hick, Hargreaves & Co., Ltd. ..	89
Hilgibottom, G. & E., Ltd. ..	142
Honeywill Bros. ..	84
Hodge Sherriff Paper Co. ..	6
Huyck, F. C., & Sons ..	26
Hyatt, Ltd. ..	77
Industrie's Guide The ..	113
Jackson & Brother, Ltd. ..	104
Jebb Brothers, Ltd. ..	119
Johnson, C. H., & Sons ..	40
Kenyon, W., & Sons, Ltd. ..	136
Kenyon, James, & Son, Ltd. ..	140
Kempster, Edward, & Sons, Ltd. ..	123
Kjellberg & Hedberg ..	69
Launcester & Tonge, Ltd. ..	ii Cover
Lang Bridge, Ltd. ..	98
La Papelera Espanola C., Ltd. ..	130
Loughton & Co. ..	82
Leitch, John W., & Co. ..	138
Lendrum, Ltd. ..	32
Leyland & Birmingham Rubber Co., Ltd. ..	77
London Motor Garage Co., Ltd. ..	74
L'Industria Della Carta ..	118
Llad mneyr & Johnson Paper Co., Ltd. ..	86
Lloyd, Edward, Ltd. ..	14
London Dye Manufacturing Co., Ltd. ..	112
Lonsdale Bros., Ltd. ..	60
Lord's Barnbrook ..	138
Lundgren, R. L., Ltd. ..	ii Cover, 101
Manchester China Clay Co., Ltd. ..	142
Marshall, T. J., & Co., Ltd. ..	iv Cover
Marx, R. J. ..	134
Mason, Scott & Co., Ltd. ..	135
Mather & Platt, Ltd. ..	103
Matthews & Co., Ltd., Wm. ..	81
Mayer Coating Machines Co. ..	128
Melcor, The ..	122
Millwards Merchandise, Ltd. ..	142
Milne, James, & Co., Ltd. ..	20
Mitchells, Ashworth, Stensfield and Co., Ltd. ..	24, 25
Musgrave & Co., Ltd. ..	91
Musgrave, John, and Sons, Ltd. ..	103, 109
National Paper & Pulp Co., Ltd. ..	10
Newsham, Surie & Co., Ltd. ..	118
Nyhamns Cellulosa Aktiebolag ..	140
Olson, T. V. ..	86
O'Neill Wire Works, Joseph ..	88
O'Neill, Samuel, & Sons, Ltd. ..	131
Oury, Miller & Co. ..	44

Page, Chas., & Co., Ltd. ..	75
Paper Manufacture Co., Inc. ..	91
Parsons & Whittemore, Inc. ..	135
Parsons Trading Company ..	137
Pennan & Co., Ltd. ..	137
Perry, W. R., Ltd. ..	136
Phillips & Co.'s Standard Publications ..	71, 110, 126
Phillips' Paper Trade Directory of the World ..	71, 116, 142
Pochin, H. D., & Co., Ltd. ..	105
Politt & Wiggall, Ltd. ..	80
Porritt & Spencer, Limited ..	99
Price & Pierce, Ltd. ..	116
Proctor, Jas., Ltd. ..	106
Proctor, Johnson & Co. ..	141
Ralston, W., & Co., Ltd. ..	114
Ransomes, Sims & Jefferies, Ltd. ..	81
Roddaway, F., & Co., Ltd. ..	iv Cover
Rodgers & Co. ..	114
Rex, Weddall & Co. ..	73
Riordon Sales Co., Ltd. ..	88
Riley & Co., Ltd. ..	19
Royles, Limited ..	111
Rozelene Co., The ..	84
Rushton, Edward, Son & Kenyon ..	120
Russo-British Chamber of Commerce ..	140
Sabel, Paul, & Co. ..	82
Salvesen & Co., Ltd. ..	98
Sampson & White, Ltd. ..	34
Sandoz Chemical Co., Ltd. ..	110
Saville, Marvel & Co., Ltd. ..	ii Cover
Small & Co., L. S. ..	84
Smyth-Horne Ltd. ..	97
Spon, Ltd., E. & F. N. ..	71
Spicer & Son, Ltd., James ..	79
Stanroust, Son, & Muir ..	ii Cover
Stockton-on-Tees Chemical Works, Ltd. ..	71
Stonier & Co., Ltd., F. & G. N. ..	120
Straker Squire, Ltd. ..	104
Sutcliffe Bros. ..	74
Thoresen, Thor ..	71
Thornton & Co., Ltd. ..	139
Thunes Mek Versted A/S ..	26
Torp Brugs A/S ..	50
Truman & Son, A. W. K. ..	74
United Alkali Co., Ltd. ..	iii Cover
United States Metallic Packing Co., Ltd. ..	141
United Wire Works, Ltd. ..	91
Varcoe, Williams, & Sons, Ltd. ..	ii Cover
Vaughan Crane Co., Ltd. ..	106
Vickers, Ltd. ..	74
Walmsley, Charles, & Co., Ltd. ..	132, 133
Wardill & Gilbert ..	136
Watford Engineering Works, Ltd. ..	127
Watson, John M., & Co. ..	136
Wayagannack Pulp and Paper Co., Ltd. ..	92, 93
West Carrizosa China Clay Co., Ltd. ..	128
West Rad Engine Works Co. ..	181
Westinghouse Brake Co., Ltd. ..	114
Westwell, Ltd. ..	114
Whithead, R. R., & Bros., Ltd. ..	120
Whitby Partners ..	124
Whitworths Aktiebolag ..	126
Wild (John) & Sons, Ltd. ..	126
Woodlands Colour & Chemical Co. ..	82

BRITISH NEWSPAPER REPRESENTATIVES IN FINLAND.

VISITS TO PULP AND PAPER MILLS.

Under the ciceronage of Mr. H. Reeve Angel, of Messrs. H. Reeve Angel & Co., paper agents, of 9, Bridewell Place, E.C.4., a party of newspaper directors and managers have been enjoying a tour through Finland as the guests of the Amalgamated Finnish Paper Industry. The visit was organised with a view to giving British newspaper consumers an idea of the resources of Finland in connection with the supply of paper. The party left Hull on May 31, on board the s.s. *Arcturno*, for Helsingfors, where they arrived after calling at Copenhagen—on or about June 6. During the following ten days the visitors made an extensive tour of the country by steamer, rail, and motor-car, including some of the principal lake and forest districts, and inspected various paper mills *en route*. Among the more important places visited were Helsingfors, Kotka, Kouvola, Biborg, Imatra, Kajana, Uleaborg, and Tanumfors, and the total journey covered practically a thousand miles. On the return journey, beginning on June 16, calls were made at Stockholm, Christiania, and Bergen.

The party consisted of the following ladies and gentlemen: Mr. and Mrs. H. Reeve Angel, Mr. R. H. H. Baird (*Belfast Telegraph*), Mr. and Mrs. Blanch (*The Observer*), Mr. and Mrs. Barchill (*Liverpool Courier* and *Liverpool Evening Express*), Mr. and Mrs. E. Child (H. Reeve Angel & Co., Inc., New York), Mr. and Mrs. Crabtree (*Yorkshire Evening News*), Mr. Crosfield (*Daily News* and *The Star*), Mr. and Mrs. Derwent (*Bradford Telegraph* and *Yorkshire Observer*), Mr. Fifoot (*News of the World*), Major and Mrs. Ford (*Birmingham Post* and *Birmingham Daily Mail*), Mr. Grotrian (*Hull Daily Mail* and *Hull Times*), Mr. and Mrs. Jeremiah (*Daily Sketch*, *Evening Standard*, *Daily Despatch*, *Illustrated Sunday Herald* and *Manchester Chronicle*), Mr. and Mrs. Neil Munro (*Glasgow Evening News*), Mr. H. G. Phillips (*The Paper Maker*), Mr. and Mrs. Ridgway (*Daily Mail* and *Evening News*), Mr. and Mrs. Scott (*Manchester Guardian* and *Manchester Evening News*), Mr. and Miss Simington (*Irish Times*), Mr. A. E. Spender (*Western Morning News*), Mr. and Mrs. Thornton (*Yorkshire Post*).

TECHNICAL SECTION OF THE PAPER-MAKERS' ASSOCIATION.

FORMATION OF SCOTTISH SUB-SECTION.

A MEETING was recently held at Gordon's Technical College, Aberdeen, for the purpose of considering the formation of a Scottish sub-section of the Technical Section of the Paper-Makers' Association. The questions of monthly meetings for discussion, the reading of papers, etc., and the taking of steps to promote technical education with a view to benefiting the paper-making industry were before the meeting. Among those present were paper-makers, papermill engineers, etc., representing Donside Paper Co., Ltd., Alex Pirie & Co., Ltd., Culter Mills Paper Co., Ltd., and C. Davidson & Sons, Ltd. Mr. Chas. Stewart, principal of the College, was also present.

Col. Davidson, D.S.O., presided, and it was eventually decided to form a local sub-section of the technical section named, subject to the approval of the provisional committee, which, we believe, has been granted.

Mr. Aitken (Inveresk), Dr. MacDonald (Tullis, Russell and Co.), and Mr. Strachan (Donside) were appointed a provisional committee.

PAPER MILL AMALGAMATION IN CANADA.

THE RIORDON PULP AND PAPER CO. MERGE TWO OTHER COMPANIES.

A Reuter correspondent at Ottawa, writing on May 31, states: "An announcement is made by the Royal Securities Company of the formation of a £12,000,000 company by the merging of the Riordon Pulp and Paper Company with the W. C. Edwards Company and the Gilmour and Hughson Company. The latter two concerns own great pulp and timber resources approximating 12,000 square miles of timber land, containing 25,000,000 cords of pulpwood, 1,000,200,000 feet of standing pine and 150,000-l.-p. of water-power already developed. As far as is known here the properties represent the largest available supply of pulpwood under one control in the world."

In the course of some comments upon the amalgamation, a financial contemporary says: "The best known of these companies in this country is the Riordon Pulp and Paper Company, which was incorporated in 1912 to acquire the undertaking of a Canadian company of a similar title. The authorised capital consists of 6,000,000 dols. in shares of 100 dols., 1,500,000 dols. being 7 p.c. cumulative preference, of which 1,000,000 dols. have been issued, as well as the whole of the common shares. Out of a total of 6,500,000 dols. authorised debentures and bonds have been issued amounting to 6,435,000 dols. In January, 1919, it was estimated that the company's limits contained over 3,000,000 cords of pulpwood, together with 10,000,000 ft. b.m. of pine, 50,000,000 ft. b.m. of hemlock, 1,200,000 ft. cedar ties and 3,000,000 ft. b.m. of various hardwoods, while the capacity of their lumber mills was 25,000,000 ft. b.m. per year."

The Riordon Pulp Company, was originally created in 1859, and in 1910 absorbed the kindred undertaking of G. H. Perley and Company, which was founded in 1899. The Company owns two pulp mills and three lumber mills in Quebec, and possesses timber rights over 1,184 square miles on the Rouge River, with plenty of water power and very favourable transportation facilities. It also holds a controlling interest in the Ticonderoga Pulp and Paper Mill Company of New York and the Kipawa Fibre Company. The Edwards and the Gilmour and Hughson concerns are mainly timber owning enterprises, and have concessions covering 12,000 square miles. The Riordon Company, therefore, will have its pulp resources enormously strengthened by the amalgamation, which is to be ultimately capitalised at \$60,000,000.

MANCHESTER AND DISTRICT WOOD PULP AGENTS.

On the eve of going to press we have received a report of the annual picnic of the Manchester and District Wood Pulp Agents, which took place on the 25th ult., Mr. Chas. Greenhalgh being responsible for the arrangements. Starting from the Manchester Produce Exchange, the party journeyed to Chatsworth, Matlock, and Buxton, via Ashton-under-Lyne, Stalybridge, Mottram, Melowdra Castle, and Glossop. At the County Hotel, Matlock, where a stop was made for dinner, the visitors were greeted by Mr. A. Berry, of Grimsby; Mr. W. Johnson, of Becker and Co., Ltd.; and the Rev. W. Greenhalgh, of Belper Parish Church (brother of Mr. Chas. Greenhalgh). On leaving Matlock, the route followed was by Rowsley, Haddon Hall, Bakewell, and Ashford, Buxton being reached at 5.50 p.m. The return journey was commenced about 7 o'clock, and was completed shortly before 9 o'clock. A more extended account of the outing will be given in our next issue.

PAPER BOARDS, LIMITED

THE statutory meeting of this company was held at the Birmingham Chamber of Commerce, New Street, Birmingham, on May 17, Mr. J. H. Crompton (Chairman of Eccles Walker & Co., Ltd.) in the chair.

There were present also Councillor T. Bishop, Mr. M. H. Gething, and Mr. A. E. Terry, Directors; Mr. W. H. Lyde Solicitor; Mr. Lucas, A.C.A., Auditor; Mr. S. W. Hart, A.C.A., Secretary; Mr. T. C. M. Dale, Asst. Secretary. There was an excellent attendance of shareholders.

The formal business of the meeting having been transacted, the CHAIRMAN addressed the meeting, and stated that the company was the successor to the scheme of co-operative buying which had been so successfully adopted by the Birmingham and District Paper Box Manufacturers' Association during the period of the Great War. He contended that by the prompt and effective steps taken by the Executive Committee in this direction many firms had been spared from the necessity of closing down owing to lack of supplies, which had been obtained, and at most advantageous prices. The new company, "Paper Boards, Limited," with the advantage of capital, extension of operations, system, and access to the best markets, must prove a valuable asset to all engaged in the trade. A good deal of loose talk had filtered round to the effect that the new company was out to cut prices and wage competitive war against merchants and firms connected with the trade. He wished most emphatically to contradict this misapprehension. Paper Boards, Limited, was a profit-making concern, and a collective buying organisation for the trade, and whilst doing their best to meet the requirements of the trade by supplying everything necessary to the box makers, they invited the merchants and any other firms who had anything of interest to sell, to send their quotations and samples, and as these were put before every shareholder at frequent intervals, there was no reason to suppose that any other terms, except business to mutual advantage, would ever arise between the company and other firms engaged in the trade. He was pleased to be in a position to assure the shareholders that the prospects of the company were excellent. The contracts that he and Mr. Terry had been enabled to effect whilst in Holland and Belgium last year were now of considerable value to the company, and a fair volume of profitable business had been done. It was unfortunate that the strike in Holland should have been declared at the commencement of the company's operations. It was now, however, over, having lasted nearly three months. There was, as was only to be expected, considerable congestion at the Dutch ports, but invoices had been received of goods actually despatched and notifications that other consignments would follow within a few days, and he hoped that they had now seen the worst of the trouble, although some delays must occur for a time until things become normal. Arrangements had been made to stock in Birmingham, and very shortly the company would be able to offer considerable quantities of Strawboards, Plints, and Enamel, Kraft, S.C. Printing, and other papers, calico and other requisites from their own warehouse. In conclusion, Mr. Crompton stated that the issued capital of the company had been over-subscribed, and that the future outlook of the company pointed to a largely-increased sphere of operations. His own opinion was that shareholders could look forward with every confidence, and he could tell them that this confidence was shared by his co-directors.

COUNCILLOR BISHOP congratulated the shareholders on the position and prospects of the company, and emphasised the advantages that would accrue through their well-placed contracts. He hoped the Chairman's appeal for co-operation and support would be effective, and pointed out that those who had dealt with the Association in the past should have a sound inducement to be equally interested

in the new company. He entirely agreed with the various points enumerated in the Chairman's speech, and he looked forward to a very successful year for "Paper Boards, Limited."

A vote of thanks to the Chairman was unanimously passed, and the meeting terminated.

PAPER FROM PEAT.

A WOOD PULP SUBSTITUTE.

THE possibility of producing different kinds of paper from peat pulp was demonstrated to a small party of people interested in the paper trade in the Manchester College of Technology on the afternoon of the 29th ult. Mr. J. Huebner, director of the dye-house of the College, was careful to explain that the College itself was playing no part in the test, except that of providing the necessary facilities.

The persons responsible for the demonstration were Mr. A. L. Burlin, Ph.D., the inventor of the process of reducing the raw peat to pulp, and Mr. T. Cheetham Brooks, a Manchester dry-salter, who is assisting Mr. Burlin to put his invention to practical use. Mr. Burlin supplied the pulp, and the paper-making machine of the College and its attendants did the rest. According to the *Manchester Guardian*, a bleached paper was produced which some present evidently regarded as one of which the market would make good use, for they spoke freely of the number of tons they could use. The presence of small dark specks in it was commented on, but Mr. Burlin stated that these could easily be eliminated by means of a sieve.

In giving a short address after the test, Mr. Burlin exhibited specimens of the peat before and after its reduction to pulp, and specimens of different kinds of paper, variously coloured, made from the pulp. The peat used, he explained, came from Fens Bank, on the borders of Shropshire and Cheshire, and was not at all the best for the purpose. Irish peat would be infinitely better because of the superiority of its fibre. Provided with the necessary apparatus, he could turn out, within a month, at least 50 tons of unbleached pulp, and within another month 50 tons of bleached pulp in addition. Mr. Burlin added that from the tough roots extracted from the peat a trade in brushes could be developed, and that a London firm had already offered to pay £12 a ton for the liquid extracted from the peat.

Mr. Brooks expressed a hope that sufficient financial help would be forthcoming to enable the process to be applied in this country instead of allowing foreigners to take advantage of it. In view of the great shortage and high price of wood pulp, the invention would be of value if it permitted the manufacture of nothing but brown paper, for the demand on wood pulp for that purpose would be relieved. It had already been demonstrated that wall-papers, paper board, and a host of other things could be produced from the peat pulp; and any maker of newsprint must admit that even if he could not get just the quality he wanted from the peat pulp it would be very valuable if the result could be obtained, say, by mixing 50 per cent. of peat pulp with an equal quantity of wood pulp. To handle the invention adequately, he estimated, about a quarter of a million sterling would be required. If that sum could be secured he thought it would all be returned in from eighteen months to two years.

Owing to a clerical omission, for which we were not responsible, the advertisement of Messrs. La Papelera Espanola does not mention the fact that Messrs. Burnell, Hardy & Co., Ltd., 106, Queen Victoria Street, London, E.C.4, are the agents for this well-known Spanish firm of paper-makers. Messrs. Burnell, Hardy & Co., Ltd., have been the sole agents for La Papelera Espanola for a considerable time past.

SULFITAKTIEBOLAGET GÖTA

— GÖTA, SWEDEN. —

Manufacturers of

G. T. WOOD PULP

EXTRA STRONG AND CLEAN.

*Dry, Unbleached Sulphite
Cellulose Pulp.*

*Wet, Unbleached Sulphite
Cellulose Pulp.*

Annual Output : 25,000 tons, dry weight.

Agents for Great Britain and Ireland :—

O. REICH & Co.,

STUART HOUSE, 1, TUDOR STREET, E C.4.

THE Paper - Maker

AND
British Paper Trade Journal,

WITH WHICH IS INCORPORATED THE

WOOD PULP MAKER,

THE INDEPENDENT AND PRACTICAL JOURNAL FOR
THE PAPER TRADE.

Founded by S. CHAS. PHILLIPS, M.S.C.I., &c.

Subscription, 21/- per Annum. Post Free.

Published on the 1st of Each Month.

EDITORIAL, ADVERTISEMENT, AND PUBLISHING OFFICES,

47, CANNON STREET, LONDON, E.C.

Branch Office: 448 and 450, Produce Exchange, Manchester.

Telegraphic Addresses.

"SONIGA, LONDON."

"SONIGA, MANCHESTER."

Telephone: No. 5429 (Bank).

A.B.C. Code 5th Ed. No. 14 City Manchester

ADVERTISEMENT TARIFF.

For Consecutive Insertions for not less than one year.

For ordinary issues only.

ONE PAGE	..	..	..	£10 0 0	PER INSERTION
HALF-PAGE	..	..	..	£5 10 0	"
THIRD-PAGE	..	..	..	£4 5 0	"
QUARTER-PAGE	..	..	..	£3 15 0	"
FIFTH-PAGE	..	..	..	£3 5 0	"
SIXTH-PAGE	..	..	..	£2 17 6	"
EIGHTH-PAGE	..	..	..	£2 10 0	"

Twenty per cent. extra will be charged for less than one year's consecutive insertions.

Special Positions from £15 15 0 per insertion.

Double Rate for Annual and International Numbers.

SPECIAL PAGES IN COLOURS EXTRA.

Parliamentary Notices, Prospectuses, etc., 2/6 per line, calculated single column.

Small Single column advertisements, such as Wants, &c., 2s. per line.

Alteration in current Advertisements must reach this Office not later than the 15th of each Month prior to the publishing date, as owing to the increasing circulation of this Journal we are compelled to commence printing early.

VOL. LX.

JULY 1, 1920.

No. 1.

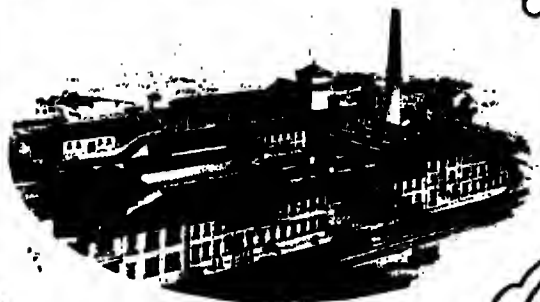
WOOD PULP PROBLEMS.

IT is not surprising that in these trying times the enthusiastic amateur or the industrious research man announces with monotonous regularity the discovery of a substitute for wood pulp. One of the last of these gentlemen who claims attention very fittingly remarks: "As the matter of scarcity of wood pulp and the high prices ruling for same to-day have clearly been causing considerable anxiety to buyers and users of wood pulp both in this country and abroad, I very naturally gave my earnest consideration to a statement made to me some weeks ago that paper pulp could be produced in this country from raw material obtainable in abundant quantities, which has hitherto been practically useless," etc. We must sincerely wish Mr. T. Cheetham Brooks and those associated with him every success in their enterprise, but from information we have we do not anticipate any revolution in regard to the substitution of cheaper or better material for paper-making than wood

pulp for a long time ahead. During the last ten years we have seen two British-made beaters, both of which appeared to provide quite a new method of beating which, if successful in practice, would, so to speak, permit of almost unlimited adulteration of the paper stock in general use, but although in theory both these beaters were capable of and had provided new scope for investigation and incidentally also provided an outlet for expenditure of considerable sums of money contributed by very clever and practical persons, to-day we are still relying in principle on the familiar and ancient type of beater with various improvements. Paper-makers in this and every other country will, we imagine, be quite content if they can secure adequate supplies of chemical and mechanical wood pulp at prices which will admit of a businesslike and reasonable profit. One authority says the future of wood pulp lies in British Columbia, while another points to Finland and Russia, and it is common knowledge that at this moment enormous sums of money are being spent in Sweden, Norway, and Canada on businesslike lines. As we remarked last month, Germany and Austria are also to be reckoned with in the near future both as regards paper and pulp wood. A visitor recently endeavoured to interest British financiers in a very elaborate and fantastic scheme for a huge wood pulp undertaking in a part of Austria now practically under British control.

We ventured to express the hope that the 18th dinner of the British Wood Pulp Association held in London on June 16 would provide us with some real information calculated to comfort paper-makers who are, not unnaturally, greatly concerned as to the outlook. It cannot fairly be said that the gathering of the wood pulp experts tended materially to brighten the situation. After all, wood pulp agents and to a very large extent wood pulp producers are creatures of circumstances, and there may be a tendency when wood pulp prices appear to be unreasonably high that, taking the history of the pulp mills over a series of years, investors in these undertakings are entitled to point out that there have been very many lean years and that if figures were forthcoming to show the whole financial history of wood pulp mills in Scandinavia many mills now doing well may fairly claim to recomp themselves for the difficulties they have had to encounter over a period of years. It may fairly be said that although the speeches made at the wood pulp dinner did not provide much material for very deep thinking, they admirably answered the purposes intended and after all it cannot be said that business men, having enjoyed an excellent repast, are not entitled to bright and breezy orations enlivened by the tilting, say, of Mr. Joseph Dixon and the witty and bright repartee of Lord Riddell. As Lord Riddell very aptly put it, the paper-maker and paper buyer are entitled to have a little jocularly at each other's expense, and they are, generally speaking, good friends at heart. The wood pulp dinner and the geniality pervading that gathering served to remind one that throughout these abnormally trying times and the heated arguments and threats of reprisals, it is possible to meet around the festive board as men and brothers, and it is indeed gratifying that in the Paper Trade this spirit of kindness and good fellowship is very real and serves to tide over many potential difficulties.

Yates Duxbury & Sons Ltd.



MILL NUMBER
153.



MILL NUMBER
208.



Heap Bridge Paper Mills

BURY, LANCS.

Makers of

**Fine E.S. Printings and Writings
Antique Laid and Woves
E.S. Cartridges & Parchment Woves
Superfine Tinted Writings**

Packing for Export a Speciality

Sole London and Export Agents :

CHARLES E. CORKE & CO.

45, LUDGATE HILL - - E.C.4.

Telephones:
CENTRAL 802 & 803.

Telegrams:
"INTERWOVEN, CENT, LONDON."

MY NOTE BOOK.

"A chiel's among ye takin' notes."

I have been honoured by an official intimation that I have been unanimously elected a delegate to the Imperial Press Conference in Canada, as representing THE PAPER MAKER, and I realise that this is a compliment any working journalist would covet.

The complete delegation will not exceed one hundred, and I understand the invitations have been allotted to the United Kingdom, 60; Australia, 12; New Zealand, 7; South Africa, 8; India, 6; Newfoundland, 3; Ceylon, 1; Far East, 1; West Indies, 1; Egypt, 1; Malta, 1.

Viscount Burnham (President of the Empire Press Union) is chairman of the delegation from the United Kingdom, and the party will leave Liverpool on July 17, and should arrive at Halifax on July 25. The itinerary includes visits to paper and pulp mills and is intended to afford some idea of what the Dominion is really doing.

It is no secret that THE PAPER MAKER was built up mainly by the personal efforts and extraordinary industry and ability of the late Mr. C. S. Phillips, whose death occurred nearly three years ago.

For many years the late Mr. Phillips visited America and Canada annually, and it is very interesting to read some of his "matter" of twenty years ago, and that his predictions in regard to the developments in Canada are now being fulfilled to the letter.

Mr. Phillips expressed the opinion that American forests were being cut to waste and were not being systematically conserved. Further, that "in a comparatively short time" America would have to go to Canada for pulp and this would probably cause a good deal of friction.

Mr. Phillips further went on to say that the investments of American money in Canada was an important factor and that this would grow; also that it behoved Great Britain to keep a watchful eye on Canada as a potential pulp and paper for British requirements.

In a paper presented before the Society of Arts, Mr. Phillips reiterated these opinions and also said that Canada will undoubtedly develop enormously in the early part of the next century and that although sentiment would play a certain part in these great deals, the demand for pulp and paper would be so great that Sweden, Norway, Finland, Germany and Austria would still hold their own; in fact, the world demand would be such that every one would get a share. In other words, that Canada would develop both in regard to chemical and mechanical pulps and paper, but that this would not prejudice European interests, the reverse being probably the case.

Not since the year 1912 have we been able to visit Canada personally. In 1913 Mr. Phillips intended crossing the Atlantic, but other engagements prevented and he had also planned a journey to Canada and the States in 1914, but the war upset practically everyone's plans.

The time has, however, come when we consider the paper makers of this country should know first hand what is being done in Canada and America; what the conditions in regard to pulp and paper really are, what developments are taking place and if practicable, to carefully consider how far these enormous developments are likely to affect us in Great Britain.

Having this mission in view, I hope to go to Canada in July and to obtain first-hand information on these important subjects and I am encouraged by the fact that I have received very hearty invitations from several of the largest concerns in the Dominion.

Mr. Harold G. Phillips has sent me along an enthusiastic description of the doings of the party "personally conducted" through Finland by Mr. H. Reeve Angel, and I hear that the Amalgamated Finnish Paper Industries Association carried the whole programme through in a manner and on a scale which greatly impressed the representative party, many of whom have seen Finland for the first time.

I learn that no trouble or expense was spared and that the visitors were shown over many of the largest and most important pulp and paper mills in that country of great possibilities, and I hear that the enormous available wood supplies, of which a good deal has been said, were so vast and suitable for paper-making as to have impressed the guests.

Special boats and trains were provided and Mr. Phillips says "the comfort of everyone was carefully studied in every possible respect."

I also learn that it will not be long before Finland plays a very important part in the paper and pulp world and also in the allied industries. Projects are now in operation for producing practically all classes of paper, and particularly cigarette papers, super-calendered, "news," tissues and a variety of special papers.

One important pulp mill will at no distant date be producing 30,000 tons of sulphite per annum and the scheme in connection with this mill is to lay an equipment for 80,000 tons per annum as quickly as practicable.

There are also other mills of a very ambitious nature which are in a fair way of being in operation before long.

The visitors heard a most interesting speech on the wood pulp position and outlook from Mr. J. De Julin, at a dinner given in honour of the visitors on their arrival. This dinner was attended by the Premier of Finland, the British Minister, and a number of other influential and representative people. Col. Serlachius spoke frankly on the "news" situation and gave some valuable facts, particularly from the Finnish point of view.

Another of the party, who is an old friend of mine and who is visiting Finland for the first time, tells me "there is no getting away from the fact that Finland is very rapidly developing her wood pulp and paper industries. Of this there is no doubt whatever, as we have actually seen sufficient to convince us that this is the case."

The party, I learn, left for England via Stockholm and Christiania on June 16, and were due to arrive at Newcastle-on-Tyne on the 28th.

I was very delighted to receive a visit from Mr. T. James Stevenson, director of the Riordon Sales Co., Ltd., Montreal.

Mr. Stevenson, who is visiting Europe for the first time, is accompanied by his wife, and they were fortunate in these times in securing a delightfully situated suite in the Savoy Hotel overlooking the Embankment and the fine stretch of river from the Houses of Parliament down to Tower Bridge.

(See also pages 92 and 93.)

"Foster Imperial Trade"

(MR. LLOYD GEORGE)

AND SPECIFY

WAYAGAMACK KRAFT.

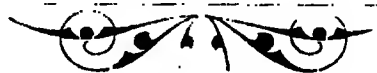
Canada gives a 33½ per cent. Preference to British Manufacturers.



"The equal of any Scandinavian Kraft Paper, and a matter for congratulation that such a high quality is being produced in the British Empire."- Extract from *World's Paper Trade Review*.



MADE IN BRITISH EMPIRE.



SOLE AGENTS:

Hodge-Sherriff Paper Company,

CRAVEN HOUSE, KINGSWAY, W.C.2. 117, RUE CAULAINCOURT, PARIS, 18e.

Telephone : REGENT 402.

Mr. Stevenson was good enough to take me along to his sanctum, and there he told me of the extraordinary growth of the Riordon undertakings and of the great schemes for development.

These include the putting-down of and extending all their sulphite producing properties so as to provide an output of 108,000 tons of bleached sulphite per annum.

Bleached sulphite is of course more popular, if I may use this expression, in some countries than it is in Great Britain, but Mr. Stevenson as Sales Manager has shipped large quantities over to this side and he told me something of the uniformity and economy effected by electrolytic bleaching on a grand scale where power is attainable.



MR. T. J. STEVENSON.

It is no secret that the Riordon Co. is in a unique position as regards timber supplies and is looking well ahead.

Happily, Mr. Stevenson's visit fitted in with the Wood Pulp Association's Dinner, and it was a graceful compliment on the part of Mr. Nicol and Mr. Andrews to call on the distinguished visitor from Canada to say a few words.

Mr. Stevenson impressed me as an intensely practical man, who like every good Canadian to-day is a Britisher to the core and proud of the fact.

When I heard Mr. Stevenson modestly give some facts and figures relating to the concern with which he has been honourably connected for forty years, it occurred to me that we in Great Britain do not fully realise what Canada is really doing and will do during the next decade and onward.

It almost takes one's breath away to realise that the combined undertakings of the Riordon Pulp and Paper Company will soon be 12,000 square miles—an area equal or slightly more than Belgium and almost the size of Holland.

Further, the ground secured contains 25,000,000 cords of pulpwood, 1,200,000 feet of standing pine, 150,000 horse-power developed and undeveloped, and a potential annual output of pulp and paper of 150,000 tons.

Mr. Stevenson, in a quiet, thoughtful way, talked to me in millions and I jotted down just a few of the important and interesting things he told me. Incidentally he expressed the belief that high grade bleached sulphite would grow in favour in Europe on account of its cleanliness and even quality.

Mr. Stevenson mentioned that the Riordon Pulp & Paper Company own three bleached sulphite mills in Canada, producing about 110,000 tons of sulphite pulp of which 100,000 capacity is in bleached sulphite. These mills are at Merriton, near Niagara Falls; Hawkesbury, near Montreal; and Kipawa on Lake Temiskaning, Province of Quebec. They also possess the Ticonderoga Pulp and Paper mills at Ticonderoga, Lake Champlain, New York State, making 18,000 tons of the finest book paper and 18,000 tons of bleached soda pulp, bringing the total up to 150,000 tons annually.

The President, Mr. Charles Riordon, is one of the oldest and most experienced paper manufacturers, having been

the mainspring of the Company's activities for over half a century and a pioneer in sulphite manufacturing in America. Mr. Riordon is also proprietor of *The Mail and Empire* newspaper of Toronto, the leading Unionist daily there. Among many other interests, Mr. Riordon is President of the Steel Arch Bridge, spanning the Niagara Gorge and over which is carried the Grand Trunk Railway to the United States border.

Mr. Carl Riordon, Vice-President and Managing Director of the Riordon enterprises, the only son of the President, is one of Canada's chief Captains of Industry. The Canadian Government appointed him on the Industrial Relations Commission which spent two months of last summer collecting evidence from Vancouver to Halifax. Mr. Carl Riordon presented a supplementary report containing views of an advanced character concerning the labour reforms he advocated, which met with an interesting reception. The Canadian Parliament is now considering the Commission's report.

The possibilities of wood pulp exportation from Canada to assist the supplies for the British market appear to Mr. Stevenson to be the question of paramount interest to makers and consumers of paper here so far as he has been able to learn since his arrival in this country.

As we know, a world shortage in pulp and paper has been in evidence for some time, largely due to the unprecedented demands upon paper production which the epoch-making events of the last six years have created, and on this subject Mr. Stevenson says the difficulties of laying down new plants, or extensions to present plants, have prevented new production necessary to take care of the normal annual increase in consumption. This increase has, he says, been estimated at twenty-five per cent. over the quantity consumed in 1914. "Machinery," he added, "is on order in the United States, Canada and Great Britain to overcome the paper deficiency in some measure. It will take years, however, to regain the ground thus lost, despite all efforts now being made, so that little encouragement for any early relief in pulp and paper supply can be hoped for."

It is fairly claimed that the Riordon Company have contributed the most notable addition to the world's sulphite pulp manufacture by the erection of the huge plant of the Kipawa Company at Pemsksanning, Quebec Province. This mill is designed for 500 tons daily capacity in the highest quality of bleached sulphite, the pulp being especially designed for fine qualities, such as sulphite writing, bank, fine book papers, etc.

The initial unit of 150 tons per day is now in successful operation and the next section is well under way. When fully completed this mill will cost \$15,000,000. It is regarded as of importance to the world's paper trade, because it is the last word in mill planning in all its departments, while the wood used is acknowledged to be perfect for sulphite pulp purposes.

The pure water of Lake Kipawa assures clean pulp as well as ample water power for future expansion. Mr. Carl D. Thorne, the technical director of the company, has been in charge of the plan designs and construction of the mill. Mr. Thorne being recognised as the leading cellulose authority and inventor of many valuable improvements in processes of manufacture, having been identified solely with the Riordon Company for the past 18 years.

Asked as to the newsprint paper situation, Mr. Stevenson stated that the newspaper scarcity was still very great

MILLS

219

414

123

417

430

EARLY DELIVERIES AVAILABLE

*Finest English Copying, White and Buff
Banks, Bonds, Typewriting Papers
Cream Laid and Woves, Music Papers
No. 1 & No. 2 Grade Printings, Cheque Papers
Finest Glazed Imitation Parchment*

REELS AND SHEETS

NATIONAL PAPER & PULP
COY. LIMITED

Paper Mill Owners & Agents

66 UPPER THAMES ST., LONDON, E.C.4

TELEPHONE:
CENTRAL 981
" 1834

CABLES:
"WOODPULP, CANNON,
LONDON."

in America. His company, he reminded me, make no paper in Canada, manufacturing sulphite instead.

Canada, with its magnificent waterpowers and pulp wood resources, will most certainly be called upon to assume responsibility for the increased requirements in newsprint paper for North America, and many additions to present mills have been planned. Mr. Stevenson was glad to learn that "with the aid of Canadian pulp the Old Country has been able to carry on so well under the most difficult manufacturing paper conditions."

I enquired what was the most important factor in the future of paper-making in America. Mr. Stevenson immediately replied, "Pulpwood resources." He added, "Forest areas are being reduced materially in Canada while the forest areas in the Eastern States cannot be relied upon, except for a comparatively few years to come. Canada is therefore waking up to the value and importance of her standing timber and the necessity of conserving it by every means within her power. Several large companies, including our own, have made a good start in tree planting. On the St. Maurice River limits, an airplane is used in forestry work and in fire protection."

Mr. Stevenson, after visiting England, will spend some time on the continent of Europe, returning to London early in the autumn.

He hopes to carry back to Canada practical suggestions from the British paper trade that will enable his company to be of the fullest possible assistance in supplying bleached sulphite of supreme quality. A large electrolytic plant is being constructed and will be completed this summer at the Kipawa sulphite mill to eliminate shortages of chlorine requirements, such shortage having curtailed bleaching operations in a serious manner this year.

Mr. Stevenson does not "blow" or waste words. He is just proud of what Canada is doing and is anxious that paper men on this side shall realise that the Dominion is out for big business.

One of my best friends accuses me of being responsible for what he describes as the "50th Birthday Habit." I do not admit the soft impeachment, but I will confess to the fact that I have had something to do with a few gatherings to celebrate the 50th anniversary of the birth of gentlemen who deserve to be congratulated on attaining 50 "not out." I suppose we shall agree that the 50th birthday is really a landmark in one's existence and it may fairly be said that the birthday parties so far have been given to representative men who have attained a recognised position in the paper trade.

As I think I mentioned last month there is in existence a most interesting book giving short biographies of gentlemen of Swedish birth who have attained prominence in professional or commercial life and this book "born in 1870" will undoubtedly become additionally interesting as the years roll by.

Last month I alluded to the fact that the Swedish Colony in London has decided to honour Mr. John Eberstein on the occasion of his 50th birthday. This interesting event took place at the Savoy Hotel, Mr. H. Bendixson presiding. Count H. Wrangel, Swedish Minister, Mr. E. G. Sahlin, Consul-General, Naval and Military Attachés, and a large number of gentlemen well-known in the paper and pulp trade in this country being present. The anniversary was also celebrated at a private function and was greatly enjoyed.

I note with interest that Mr. Eberstein is of opinion that it will be a very considerable time before paper prices will show any material reduction, and he also expressed the view that people who are holding back in the hope of lower prices are adopting a mistaken policy.

Mr. Eberstein goes further and says that with the shortened hours and increased costs generally, the higher cost of production in Sweden has certainly come to stay and although there may be a moderate slackness, this will, in his opinion, only be of short duration and in all probability we may see increased paper prices.

At the Savoy dinner, Mr. Bendixson, when presenting Mr. Eberstein with a very beautiful piece of silver, was in rather a jovial mood and said that if Mr. John Eberstein's birth certificate had not been forthcoming he for one would not have believed that their very youthful looking guest had reached the mature age of 50. With this some of us would be inclined to agree.

Congratulations to Sir T. Vansittart Bowater, Treasurer of the Royal Masonic Institution for Boys, on the magnificent result at the announced 122nd anniversary festival under the presidency of the Rt. Hon. Lord Lilford, Provincial Grand Master of Northamptonshire and Huntingdonshire. There were 5,062 stewards, and the stupendous and gratifying total amounted to £88,382 10s. 1d.

Sir T. Vansittart Bowater mentioned the interesting and pathetic fact that the Institution is educating 250 boys whose fathers made the supreme sacrifice in the war.

It is also a noteworthy fact that of the 5,062 stewards, 4,490 were brethren, 530 ladies, and 42 Lewises, and Sir Vansittart was complimented on the fact that this is the largest board of stewards for any festival of this deserving Institution.

The first Livery Lunch of the Stationers' Company was a great success and about 120 Liverymen and guests attended. This is a good commencement and I hear that the Livery Committee has decided upon a series of lunches, with a view to bringing the Livery and the Court into closer touch and give an opportunity for discussing how the ancient Institution may become more useful. The next Lunch is fixed for Wednesday, October 25, and it is probable some gentleman of note may be "the guest."

It cannot be said that the Master's speech at the Dinner afforded much encouragement to the reformers. In my judgment the Court would be well advised to realise that at no distant date our City Companies may be called to account by men who will not have much reverence for ancient charters and out-of-date traditions. When we have a Labour Government, and we shall have one at no distant date, the City Companies will afford rich ground for "investigation," and there will be no sentiment in the process. Now is the time to consider how the City Companies can be improved and brought into line with the demands of the times. The Liverymen, I know, are friendly and quite as mindful of the best interests of the Company as the Elders can possibly be.

As Sir William Waterlow well put the position: "The Liverymen earnestly hope to see the Stationers' Company in the position it was four or five hundred years ago, when it took a real and practical interest in the training of craftsmen."

On July 1, at the Piccadilly Hotel, Mr. and Mrs. Raynham will be entertained on the occasion of their silver wedding.

THE S.S.S. GOLF MATCH AT SUNDRIDGE PARK.



1. THE CLUB HOUSE. 2. THE PRESIDENT, MR. THOMSON, MR. JENNINGS AND MR. A. E. MIST. 3. MR. WILLIAMS, MR. MIST, AND MAJOR CRASTER, V.D. 4. MR. C. D'OYLEY MEARS. 5. MR. J. JOHNSTON. 6. MR. W. E. GREEN. 7. MR. KENNETT WHO WON THE CUP. 8. MR. LIONEL SAVORY. 9. CONGRATULATING THE WINNER. 10. MR. A. E. BROWN.

Already the gathering is an assured success. The following gentlemen formed the Committee:—Sir Howard Spicer, Mr. J. S. Elias, Mr. W. Dallas Ross, Mr. A. Ryder, Mr. E. S. Lendrum, Mr. Ernest Parke, Mr. Stanley Cousins, and Mr. F. Cumbers.

In this issue we give Mr. Hall G. R. Caine's impressions on the pulp and paper positions in Canada. The facts and figures do not encourage any hope of a speedy relief for the paper consumer.

The French Paper Stock Co.'s dinner at the Cannon Street Hotel was an enjoyable affair and afforded some indication of the growth of the concern conducted by Mr. Harry Becker, Mr. F. E. R. Becker's eldest son. Mr. Harry Becker, although holding a Volunteer commission, joined up as a private in the Great War, and after roughing it for two years was given a commission.

At the staff dinner he said that one heard sometimes that demobbed men were disappointing and did not come up to expectation when given employment. "I have not served in the trenches," he observed, "but I saw a lot of fighting, and what surprises me is that the poor fellows who stuck it in the trenches during the winters and the thick of the fighting are able to work at all."

Mr. Frederick Johnson (Lindenmeyr and Johnson) has received innumerable congratulations from his many friends on attaining his fiftieth birthday, and we most heartily express the sincere wish that he may be spared in health and prosperity to attain many more anniversaries.



MR. JOHNSON.

On Saturday, June 5, the spacious and well-ordered grounds of "Llandaff" Clapham Park, presented a pleasant scene, and one noted several well-known paper people, with their ladies there. Mr. and Mrs. Johnson gave the guests a cordial welcome, and a garden party under ideal conditions reminded one that some fortunate people reside amid sylvan surroundings, although within a comparatively short distance of the City. A string band discoursed good music and Mr. and Mrs. Johnson and family spared no pains to give the guests a delightful time. Mr. Johnson received several valuable gifts to remind him of the 50th anniversary of his birthday.

I learn that Mr. W. C. Whittaker (W. C. Whittaker and Co., Bury), has been appointed agent in this country for the well-known firm of Thiry & Co., Huy, Belgium. Messrs. Thiry are busy, but are in a position to give fairly early deliveries of small machines—such as reelers and cutters, and other paper mill accessories in which they specialise.

Messrs. Thiry had a very rough time in the great war, but happily the gentle invaders realised that the extensive and well-equipped works at Huy were admirably situated for engineering replacements and they were put to good account and, although overrun immediately war broke out, did not suffer severely—owing to purely selfish reasons. The lot of Mons. Thiry must have been terrible and had the armistice not come when it did and the Germans had been hunted home, as ought to have been the case, I imagine these well-known works would have been treated

in the same blackguardly way as were many in France, Belgium and Italy.

It was fitting that a good Scotsman—Mr. Horsburgh—should present a cup to be competed for annually by members of the S.S.S. who are golfers, for, whether we admit it or not, "gowf" is really a Scotch game. I was never in doubt of this, but if I had been I should have been convinced when I saw the bonnie lassies going from Waverley Station recently carrying their clubs on a very dismal Saturday morning.



THE WINNER AND THE CUP.

When at Sundridge Park I took a few snapshots, and these include one of the victor peeping into the interior of the coveted cup. I shall be surprised if, next year, we do not see a very much larger entry for the trophy. It was a very enjoyable day.

In a recent issue I mentioned that Mr. R. J. Triggs, who is associated with Messrs. Becker & Co. Ltd., was organising a golf match—Pulp v. Paper.

I was pleased to learn that the match was arranged to take place on June 30, at the Temple Club, Maidenhead, and the following were the teams, "my bit" being on the paper team, which just won

PAPER.	PULP.
G. H. Hedley	G. R. Hall-Caine
P. A. Skerratt	A. Batchelor
F. G. Hawdon	N. H. Leander
P. G. Denson	Geo. Buchanan
E. H. Raynham	W. H. Palmer
C. H. Sanguinetti	E. C. Lait
T. T. Mackenzie	L. G. Bratt
J. L. White	R. J. Triggs
D. Clapperton	W. Greenhalgh

Last month I mentioned the fact that Messrs. Jas. Milne & Son, are "getting busy," in fact, "getting very busy." A few days ago I met Mr. Graham in town and he appeared to be on very good terms with himself, but being a Scotsman he was not very communicative as regards details. On asking the reason for his jubilation, he confided to me that he had that day booked an order for a 120" machine for a well-known mill in the North of England making fine printings; the order includes a number of accessories. Whilst in London he had also booked a substantial order for bringing up-to-date a machine in India, together with other important work in the East.

A Norwegian friend—a gentleman behind the scenes—writes "Do not be surprised if there are labour troubles."

Finnish consumers of paper are demanding that home requirements shall be met before paper is exported. A similar suggestion is made by some influential "news" consumers in Sweden, but in Sweden the authorities have so far declined to officially interfere with the sales of paper, but it is reported that an agreement between the newspaper owners and the paper mills has been mutually arrived at.

J. I. G.

EDWARD LLOYD, LIMITED.

Paper Makers.

Head Office:—

**4/7, SALISBURY COURT,
FLEET STREET, E.C.4.**

Telegraphic Address :
"TRIENNIAL, FLEET, LONDON.

Telephone Number :
7155 CITY (8 Lines).

NEWS. PRINTINGS.

PAPER MILLS:

Sittingbourne, Kent.
Vittingfos, Norway.

Production :

**150,000 TONS PER
ANNUM.**

MECHANICAL WOOD PULP MILLS:

Honefos, Norway.
Vittingfos, Norway.

Production :

**80,000 TONS PER
ANNUM.**

BRITISH WOOD PULP ASSOCIATION.

ELECTION OF MR. L. P. ANDREWS AS PRESIDENT.

DISCUSSION ON THE GOVERNMENT'S PROPOSALS AS TO AGENTS AND THEIR FOREIGN PRINCIPALS.

REVIVAL OF THE ANNUAL DINNER.

SUCCESSFUL GATHERING AT PRINCE'S RESTAURANT.



AN extraordinary meeting of the British Wood Pulp Association for the purpose of the election of President, was held at the London Chamber of Commerce Buildings on the 16th ult., when the following members attended:—Mr. L. P. Andrews, Mr. G. W. Andrews, Mr. H. A. R. Bntler, Mr. Robt. Dickson, Mr. Sig. Diesen, Mr. G. Douch, Mr. W. Greenhalgh, Mr. A. L. Griffiths, Mr. W. J. Mather, Mr. T. T. McCrow, Mr. J. A. Nordberg, Mr. Eric Nordberg (Hon. Secretary), Mr. S. Nicol (Chairman of the Executive Committee), Mr. G. Schedin and Mr. G. Westling, with Mr. J. Hilton (Assistant Secretary.)

The chair was temporarily taken by Mr. Nicol, who called upon the Assistant Secretary to read the minutes of the last annual general meeting, which were adopted.

ELECTION OF PRESIDENT.

Mr. Nicol said that the next item on the agenda was the election of President, and stated that relative to the minutes, which had just been read, they would remember that Mr. Nordberg kindly consented to approach Mr. Percy Denson with a view to ascertaining whether he would accept the position of President in succession to the late Mr. Albert E. Reed. To the Committee's great regret, Mr. Denson did not see his way to fall in with their wishes, and it was eventually decided on the proposition of Mr. Diesen, to ask Mr. Andrews to become their President. It was, of course, for that extraordinary meeting of members to decide whether they would approve of the suggestion or to make any other nominations, but he (Mr. Nicol) was of opinion that the consent of any other nominee should be obtained first, and that the vote should be taken by show of hands.

Mr. Diesen then proposed that Mr. L. P. Andrews should be elected President of the Association. In view of Mr. Andrews' able conduct of the business of the Association as Chairman of the Committee, he (Mr. Diesen) thought they could not make a better choice. They all knew him as a capable and highly experienced man in their trade and admired his personality.

Mr. Douch seconded the proposition, which was carried unanimously.

Mr. Nicol thereupon vacated the chair in favour of the newly-elected President, who cordially thanked those present for the honour they had conferred upon him. As they had learned from the minutes of the annual meeting, Mr. Denson was first approached and he for one was heartily in agreement with that step, for he thought it was advantageous that the President should be outside the ordinary avocation of the members composing the Association, and, to put it in an abstract way, that he should be apart from any particular business rivalries that might exist. He thought this desirability had been attested in the past, when they remembered their old friend, Captain Partington

--by which name they best knew him--and his successor, their most excellent friend, Mr. Frank Lloyd. At the Association's last meeting he made some remarks concerning their late President, Mr. A. E. Reed, who had taken great interest in their work and was looking forward to the revival of their annual dinner, which had been suspended during the war. Since his election last year as President, Mr. Reed had never occupied the chair, and now he (Mr. Andrews) had stepped into the gap. He was going to do his best in the position to which they had appointed him. He was one of the fathers of the Association, was the first Secretary, and had been a member for 33 years, and might now take the oath of allegiance. (Laughter and applause.)

INCREASE OF SUBSCRIPTION.

Mr. Nicol said that in accordance with the notice of motion which he gave at the annual meeting he proposed that the annual subscription of members should be increased from £2 2s. to £3 3s., which would allow of printed weekly returns supplied by the Statistical Department of the Custom House.

Mr. Griffiths: When would the new rate of subscription commence?

Mr. Westwood (Treasurer) said it ought to commence with the year as the present subscriptions would not permit them to pay their way.

It was then agreed to insert the words "as from January 1 last," after the words "£2 2s. to £3 3s." in the resolution, which, after having been seconded by Mr. Griffiths, was carried unanimously.

THE FINANCE BILL: BRITISH AGENTS AND FOREIGN PRINCIPALS.

The President introduced the subject of the taxation of foreign manufacturers through their agents in this country as proposed in the Finance Bill. It was a question which had become very insistent and he was sure that they would have to deal with it very soon. The London Chamber of Commerce had had the matter in hand, and the textile section of the Chamber had brought forward a suggestion that such associations as theirs should subscribe to a fund to fight a test case. He (Mr. Andrews) had protested against this on the ground if the Finance Bill became law, any judge could only give judgment within the provisions of the law. The Bill stated, in relation to the corporation taxes, that any person who was an agent of a foreign company must give full particulars of the profits of the company upon its exports to this country. If he failed to do so he was liable to a fine of £100 and £2 for every day in default, while a fine of £500 could be imposed for default of payment of the duty. He (Mr. Andrews) recommended them to obtain a copy of the report of the Commission on Income Tax. They would there see that the Commission had turned down the evidence of the President of the Chamber of Commerce and others



MR. L. P. ANDREWS.

Star Brand
Star Brand
Star Brand

GEO. CHURCH & CO.

LTD

ARM

WAXED
WATERPROOF
PITCH OILED AND
MANIFOLD PAPERS

The advertisement is framed by a decorative border of small, repeating diamond shapes. At the top, three small circular logos are visible, each containing the words 'Star Brand'. The central graphic is a large, five-pointed star with a textured, slightly distressed appearance. Inside the star, the letters 'ARM' are visible. Below the star, the text 'WAXED WATERPROOF PITCH OILED AND MANIFOLD PAPERS' is written in a bold, serif font. The overall design is classic and industrial, typical of early 20th-century trade journal advertisements.

who had fought against the proposal and had actually suggested its extension to brokers. That was perfectly ridiculous. He felt certain that when the Bill was passed they would have trouble, and they as an Association, should take it into serious consideration. He could not understand why the Government should not impose an import duty instead of going this roundabout way of getting at the foreigner. The Scandinavians were very wise about it and there was no doubt that they would retaliate, and he thought there ought to be a general protest in all directions. (Hear, hear.)

Mr. S. Nicol suggested that the matter should be considered by the Committee at its next meeting, when further information might be available as to whether any joint action was to be taken.

The President said he quite agreed, but he was anxious to give the matter all publicity so that all their members should be made acquainted with it.

Mr. Nicol said that when in Norway some prominent shippers questioned him about the matter and were anxious to take every possible step to protect their interests. It was a question to which they could not close their eyes and he suggested each member should consult his solicitor upon.

The President pointed out the difficulty of convincing people that they had a grievance. Sir James Martin,

chairman of the Chamber of Commerce, had grasped the subject completely and yet the Commission had turned down his suggestion.

Mr. T. T. McCrow said that he certainly obtained a statement of profits and was not asked by the Surveyor of Taxes to do more.

The President said the principle of the thing was ridiculous. It would, no doubt, involve some expense if they joined other sections in an endeavour to upset it, but it would not, he thought, amount to much as they were a small Association. It was curious that the textile people seemed to be very keen about it.

Mr. McCrow: Do you not think we ought to make a protest to the Chancellor of the Exchequer?

Mr. Andrews agreed, and said he took it to be their wish that they must do all in their power to protest against the Bill; they must concentrate on the Bill.

Mr. T. T. McCrow asked whether the Committee would obtain all the useful information available and circulate it among the members.

Mr. Nicol: Yes, and I think it is likely the Committee will endeavour to keep members advised on other matters that may come before them. (Hear, hear.)

A vote of thanks to the President brought the proceedings to a close.

THE EIGHTEENTH ANNUAL DINNER.

THE revival of the annual dinner, which was for so many years one of the most important and delightful social functions of the allied trades, has been most successfully achieved. Following the declaration of war in 1914, the annual re-union was held in abeyance, but this year the Association determined to renew it, and so well were the Executive supported that it is doubtful whether a more enjoyable function has been held in connection with the British Wood Pulp Association. Prince's Restaurant, Piccadilly, W., was the venue chosen for the event, though, as a matter of fact, the dinner was held in the adjoining Royal Institute of Painters in Water Colours, in the galleries of which—adorned with choice specimens of the painter's art—the guests found a commodious reception room, buffet and banquetting chamber. Here a company of nearly 250 gentlemen engaged in the wood pulp, paper, and allied trades foregathered on the 16th ult. The banquetting chamber itself presented a brilliant spectacle, the beautifully decorated tables and the works of art with which the walls were hung formed a *tout ensemble* of undeniable charm. To those responsible for the arrangements generally, particularly Mr. S. Nicol (Chairman of the Executive Committee), Mr. Eric Nordberg (Hon. Secretary), and Mr. J. Hilton (Assistant Secretary), hearty congratulations may be extended upon what was in all respects a most successful evening.

Mr. L. P. Andrews, the newly-appointed President of the Association, welcomed the guests in the reception room and subsequently presided over the gathering in the banquetting chamber. Seated on his right and left were most of the following official guests of the Association, who were:—Lord Riddell, Mr. Waldemar Eckell (Norwegian Consul-General), Mr. S. Bendixson (President of the Swedish Chamber of Commerce), Capt. L. Norrgren (Finnish Consul-General), Lieut.-Colonel the Hon. P. Pelletier (Agent General for Quebec), Mr. H. A. Vernet (late Paper Controller), Mr. H. Bradley, C.B.E., Mr. E. Percy Reed (Chairman, Southern Committee, Papermakers' Association), Mr. Alfred W. Foster, B.A. (Secretary, Papermakers' Association), Mr. H. L. Symonds (Vice-Chairman, London Chamber of Commerce), Mr. J. L. Greaves (S. C. Phillips

and Co.), Mr. Fred. Gillis (Messrs. Stonhill and Gillis), Mr. S. Nicol (Chairman of Committee), Mr. J. A. Nordberg (Vice-Chairman), Mr. Eric Nordberg (Hon. Secretary), Mr. A. G. Hilton (Assistant Secretary), Mr. G. Westling (Hon. Treasurer), and Mr. James Duguid (late Assistant Secretary).

Others present were:

Aberg, D.
Aitken, W. A.
Allen, Edward W. (Oliver and Partington, Ltd.).
Anderson, H. E.
Anderson, Hugh, Jun. (Ellangowan Paper Co.)
Andrew, Duncan (Robert Erikson and Co.).
Andrews, G. W. (Andrews and Co.).
Bache, Thorleif (A/S. Mjondalen Cellulosefabrik).
Bachelor, A.
Baker, Arthur (Empire Paper Mills, Ltd.).
Barber, John.
Baron, J. W. (John Wild and Sons, Ltd.).
Bates, W. (Northfleet Paper Mills).
Benjamin, W. V.
Becker, H. (French Paper Stock Co., Ltd.).
Bernier, I. D. (Bernier and Nielsen).
Bernier, R. G. (Bernier and Nielsen).
Berry, A. E. (A. E. Berry and Son, Ltd.).
Bianchi, S.
Booth, Fred.
Borgval, T. (Essvik Cellulose Fabrik).
Bowater, Major (W. V. Bowater and Son, Ltd.).
Bowater, Noel (W. V. Bowater and Son, Ltd.).
Brierley, J. E. (Porritts and Spencer, Ltd.).
Broughton, —
Buchanan, George (Becker and Co., Ltd.).
Butler, H. A. R. (Andrews and Co., Ltd.).
Cayzer, F. (James Spier and Sons, Ltd.).
Chadwick, Cyril (Chadwick and Taylor).
Chadwick, Reg. (Chadwick and Taylor).
Chadwick, W. (Chadwick and Taylor).
Challinor, H. (William Howard and Co., Ltd.).
Clegg, L.
Clough, William (Ramsbottom Paper Mill Co., Ltd.).
Collins, E. C. (J. E. Salvesen and Co.).
Colvin, S. G.
Cooke, F., Ormsby.



ENGLISH CHINA CLAYS LTD

Largest Clay Producers
in the World

500,000 TONS ANNUALLY

EXCEPTIONAL FACILITIES FOR PROMPT DISPATCH. DRYING
KILNS ALONGSIDE RAILWAYS—OWN SIDINGS AND TRUCKS.

DEPÔTS:

RUNCORN, GARSTON, FLEETWOOD, LEITH, BO'NESS, GLASGOW & CHATHAM

- Cooke, J. (James Marsden and Co., Ltd.).
 Corke, Chas. (Chas. E. Corke and Co., Ltd.).
 Corke, W. C. (Chas. E. Corke and Co., Ltd.).
 Cowley, J.
 Crankshaw, Turner (Team Valley Paper Mills, Ltd.).
 Cranston, A.
 Denson, Percy (Edward Lloyd, Ltd.).
 Diesen, Sig.
 Dixon, Cuthbert (Peter Dixon and Son, Ltd.).
 Dixon, Joseph (Peter Dixon and Son, Ltd.).
 Dickson, R. (Kellner-Partington Paper Pulp Co.).
 Dobson, John (James Marsden and Co., Ltd.).
 Douch, C. F. (W. G. Taylor and Co., Ltd.).
 D'Oyley Mears, C.
 Drury, W. E.
 Duxbury, Percy (Yates Duxbury and Sons, Ltd.).
 Faichen, James (Annandale and Sons, Ltd.).
 Fifoot, Edgar (Alliance Export and Import Co.).
 Fitzgerald, E. (Anglo-Northern Trading Co., Ltd.).
 Fletcher, E. C.
 Flygt, Einar (Padmer and Flygt).
 Fordsberg, Ivor.
 Fox, Chas. G. (Fox, Stuckell and Co., Ltd.).
 Fraser, W. G.
 Frederiksen, Jens.
 Gamble, R. W.
 Gehleken, A. P.
 Gjenre, E.
 Gould, H. W.
 Grant, James (North of Ireland Paper Mill Co., Ltd.).
 Greenbalgh, Chas. (C. Greenbalgh and Co.).
 Greenhalgh, W. M. (C. Greenhalgh and Co.).
 Greig, G.
 Griffiths, A. L.
 Groves, F. C.
 Hall, A. E.
 Halliday, D.
 Halliwell, C. (Wallpaper Manufacturers, Ltd., Darwen).
 Harrison, J.
 Harrison, J. A.
 Harvey,
 Hawes, Stanley.
 Helm, A.
 Hence, W. A.
 Henderson, G.
 Hickman,
 Hickman, W. E.
 Higgins, C. E.
 Higgins, H. C. (Bernier and Nielsen).
 Higginbottom, M.
 Hilde,
 Hollis, F. H.
 Holmes, H. F.
 Holt, A. (Darwen Paper Co.).
 Holt, Harold.
 Hope, H. B.
 Howes, R. S.
 Hupperton, H. (Preston Dock Superintendent).
 Hutchinson, J. A. (Pirie, Wyntt and Co., Ltd.).
 Ives, - (Thames Paper Co., Ltd.).
 Jennison, J.
 Jepson, J. E. (Star Paper Mill Co., Ltd.).
 Johnsen, W. (Johnsen, Jørgensen and Wettre).
 Johnson, A. H.
 Johnson, W.
 Jørgensen, R. (Johnsen, Jørgensen and Wettre).
 Kitchen, S. N.
 Kohler, H. (Johnsen, Jørgensen and Wettre).
 Lait, E. Charles (O. Reich and Co.).
 Lane, S. M.
 Langen, J.
 Leander, L. H. (Robert Erikson and Co.).
 Leicester, A. E.
 Lendrum, E. S. (Lendrum, Ltd.).
 Lomax, J. (Darwen Paper Mill Co., Ltd.).
 Lundquist, G.
 Marshall, R. (Ralph, Darwen and Pearce).
 Mather, F. L. (Henderson, Craig and Co.).
 Mather, W.
 Mather, W. J. (Henderson, Craig and Co.).
 Matson, W. V. (Stora Kopparbergs Bergslags A/B. Agency, Ltd.).
 Matthews, R.
 McClelland, J. (Ulverston Paper Co., Ltd.).
 McCrow, T. T.
 McDonald, A.
 McDonald, G. A.
 McKenzie, T. T.
 Menzies, J. T. (Bernier and Nielsen).
 Messer, W. S.
 Money, D. F.
 Monks, Richard.
 Munns, H.
 Murch, R. P. (Johnsen, Jørgensen and Wettre).
 Olsen, B. C. (W. G. Taylor and Co.).
 Oswick, George (Reed and Smith).
 Palmer, W. H. (Padmer and Flygt).
 Parkyn, Frank (Parkyn & Peters).
 Portal, Spencer J.
 Powers, W. C. (W. C. Powers and Co.).
 Price, Sir Keith (Price and Pierce, Ltd.).
 Purkiss, R. C.
 Raft, W.
 Raybham, E. H. (Edward Lloyd, Ltd.).
 Reed, Arthur (Reed and Smith).
 Reed, Edgar (Reed and Smith).
 Reich, Olaf (O. Reich and Co.).
 Richardson, E. P. (W. H. and A. Richardson).
 Ridley, J. (Peter Dixon and Son, Ltd.).
 Riley, S. (John Wild and Sons, Ltd.).
 Rixon, J. S.
 Roddes, G. (Northfleet Paper Mills).
 Rowley, John (Arthur Milbourn and Co., Ltd.).
 Rowlinson, W.
 Rudd, A.
 Salen, Herbert.
 Sanderson, Duncan.
 Sandilands, G. A.
 Schedwin, G.
 Seddon, C. R. (East Lancashire Paper Mill Co., Ltd.).
 Seddon, John (East Lancashire Paper Mill Co., Ltd.).
 Shay, A. J. H.
 Sheldon, Lieut.-Col. C. D.
 Shore, W.
 Sieff, J.
 Sim, A. G.
 Skelton, S. T.
 Skerratt, (Thames Paper Co., Ltd.).
 Smith, J. J.
 Smith, J. Johnston (Edward Lloyd, Ltd.).
 Somersfield, T.
 Souter, W. M.
 Spalding, H.
 Starkie, W. J. (Parritts and Spencer, Ltd.).
 Stevenson, T. J. (Riordon Pulp and Paper Co.).
 Stocker, Stanley (Grose and Stucker).
 Stuart, James.
 Sursham, A. E. (Anglo-Newfoundland Pulp and Paper Co., Ltd.).
 Temperley, G. T.
 Thrandsen, I.
 Triggs, R. (Becker and Co., Ltd.).
 Turner, Joseph (Turner Paper Co., Ltd.).
 Veitch, H.
 Vickery, F. W.
 Wakefield, R. C.

PAPER MAKING MACHINERY
of EVERY DESCRIPTION.



TELEGRAMS:

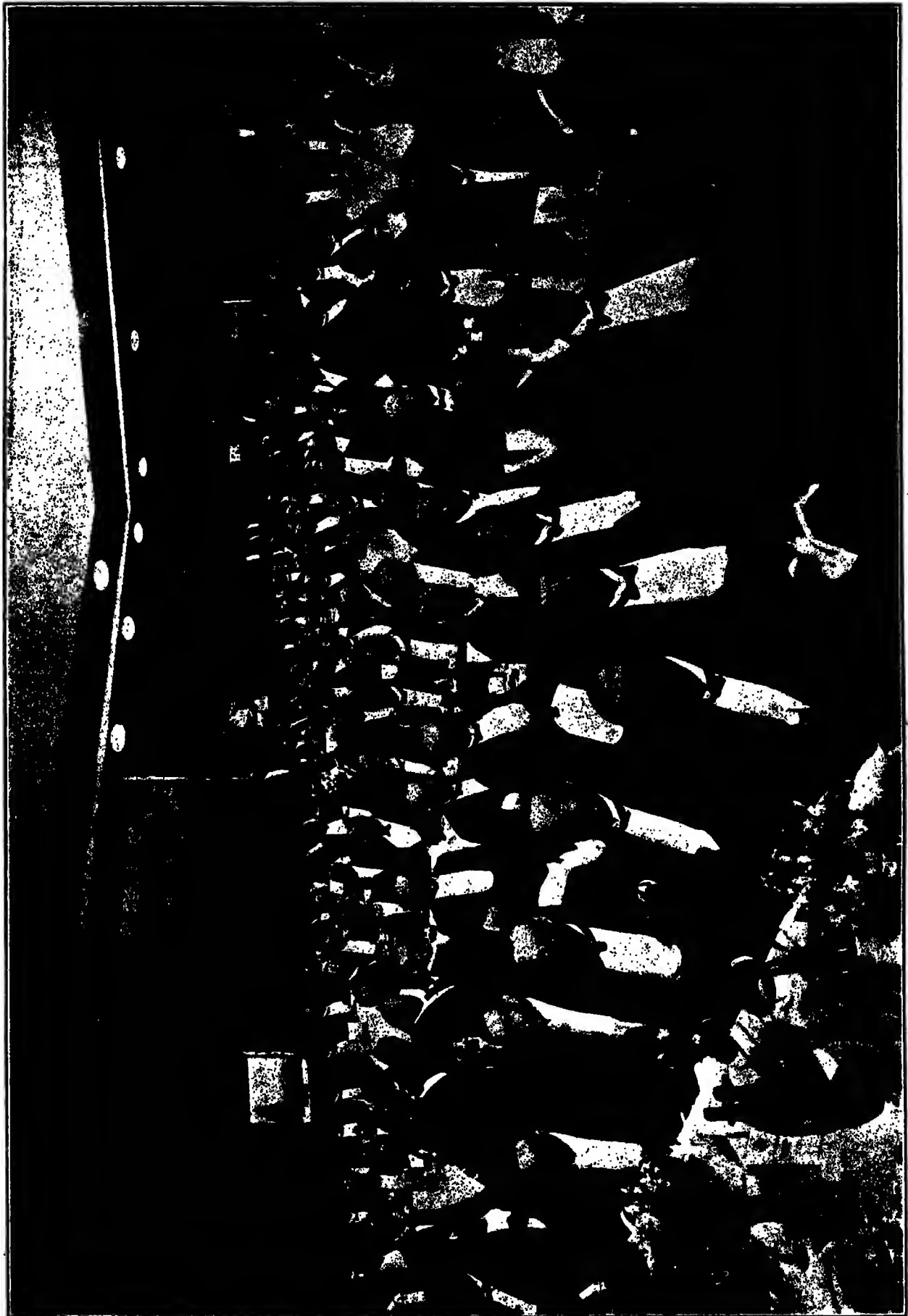
"MILNE, EDINBURGH."

CODES:

A.B.C. 4TH & 5TH EDITIONS.

MARCONI INTERNATIONAL.

BRITISH WOOD PULP ASSOCIATION: ANNUAL DINNER, JUNE 16, 1920.



[Photo, Fredella & Young.

A FLASHLIGHT VIEW OF THE BANQUETING CHAMBER AT PRINCE'S RESTAURANT, PICCADILLY, W.



F. C. HUYCK & SONS

Manufacturers of Woollen

FELTS AND JACKETS

for Paper Machines
ALBANY, N.Y., U.S.A.

Inquiries and orders requested through the following agents,
who will furnish samples, prices and full information :

FOX, STOCKELL & CO., 61, St. Mary Axe, London, E.C.

Agents for United Kingdom, Holland, Belgium, France and Spain.

LORENTZEN & WETTRE, Christiania, Norway.

Agents for Norway, Sweden, Finland, Russia and Denmark.

THE TOYO SHOKWAI, Tokyo, Japan.

Agents for Japan and China.

PARSONS TRADING CO., 17, Battery Place, New York, N.Y.

Agents for South America, Australia and India.

Walker, H. (Henderson, Craig and Co.).
 Warren, F.
 Warren, F.
 Watson, John M.
 Weddall, Rex.
 Weston, D. E.
 Whistondale, F. (Anglo-Northern Trading Co.).
 Whittaker, W.
 Wild, H. C.
 Wild, W. L.
 Wilkins, John P.
 Wilkinson, G. H. Junr. (National Paper and Pulp Co.).
 Williams, F. E.
 Willis, H. G. (Bernier and Nielsen).
 Wilson, Tom.
 Wise, A. L. (W. C. Powers and Co.).
 Wolontis, P. (Bernier and Nielsen).
 Wood, Arthur (North Eastern Paper Mills Co., Ltd.).
 Wray, A.
 Wrigley, Frank.

The menu was as follows:—

MENU.

Hors-d'Œuvre Princesse.

Tortue Claire.

Darne de Saumon d'Ecosse, Sauce Riche
 Concombres Persillés.

Noisettes de Béhague Henri IV.
 Pommes Fondantes.

Poulardes de Bresse Flambées.
 Salade Cœurs de Laitues.

Asperges, Sauce Divine.

Pêches à la Melba.
 Petits Fours.

Dessert.

Café Double.

The toast of "The King" having been loyally honoured the President, in submitting that of "The Paper Trade," said that since the last annual dinner was held six years ago much water had passed under London Bridge. He recalled that on previous occasions the toast was generally tinged with a note of condolence and the expression of the hope that times might improve. He did not, however, think that was the occasion for him to take such a tone that night, for so far as he could gather any desire for increased prosperity might be embarrassing. (Laughter.) There was an old saying that the prosperity of the paper trade meant the prosperity of the wood pulp trade, and, of course, the fact that the paper trade was so prosperous was extremely gratifying to them, as no doubt it was to the Chancellor of the Exchequer. (Laughter.) He (the President), however, wanted rather to strike out on a different line, for they had gone through a very extraordinary time. He proceeded to refer to the many members of the paper trade who went out voluntarily to fight in the war, and he took that occasion to thank them for what they had done. (Applause.) He would also like to include in his observations those of the pulp trade who shared the horrors and

honours of war. (Hear, hear.) Their number was necessarily rather smaller and the pulp mills of Canada were much more largely represented on the battle-fields, but he desired to include in the toast all those who served. (Applause.) Proceeding, Mr. Andrews said they of the pulp trade were what they might call raw material—"half-stuff"—(laughter)—and the speakers who would follow him represented the "finished article"—the gentlemen who made paper and the gentlemen who spread their wisdom upon it. Referring to the presence of Mr. Vernet, the late Controller of Paper, the President remarked that that gentleman bore no grudge for the amount of grumbling he had put up with. Mr. Vernet was "cabin'd and confined, but he was certainly not 'crabb'd.'" (Applause.) Mr. Vernet's later tendencies rather pointed to the attractions of the paper trade. (Hear, hear.) Mr. Andrews referred to the unavoidable absence of Mr. Hall Cairne and Mr. R. Gilroy, and read the following messages: "Swedish Paper Mills' Association assembled at meeting in Gothenburg, send their most cordial greetings," "Finnish Wood Pulp Association (Helsingfors) send best wishes and cordial regards." (Applause.)

Mr. Andrews then proposed the toast, which was enthusiastically honoured, and coupled with it the names of Mr. Joseph Dixon and Mr. W. C. Powers.

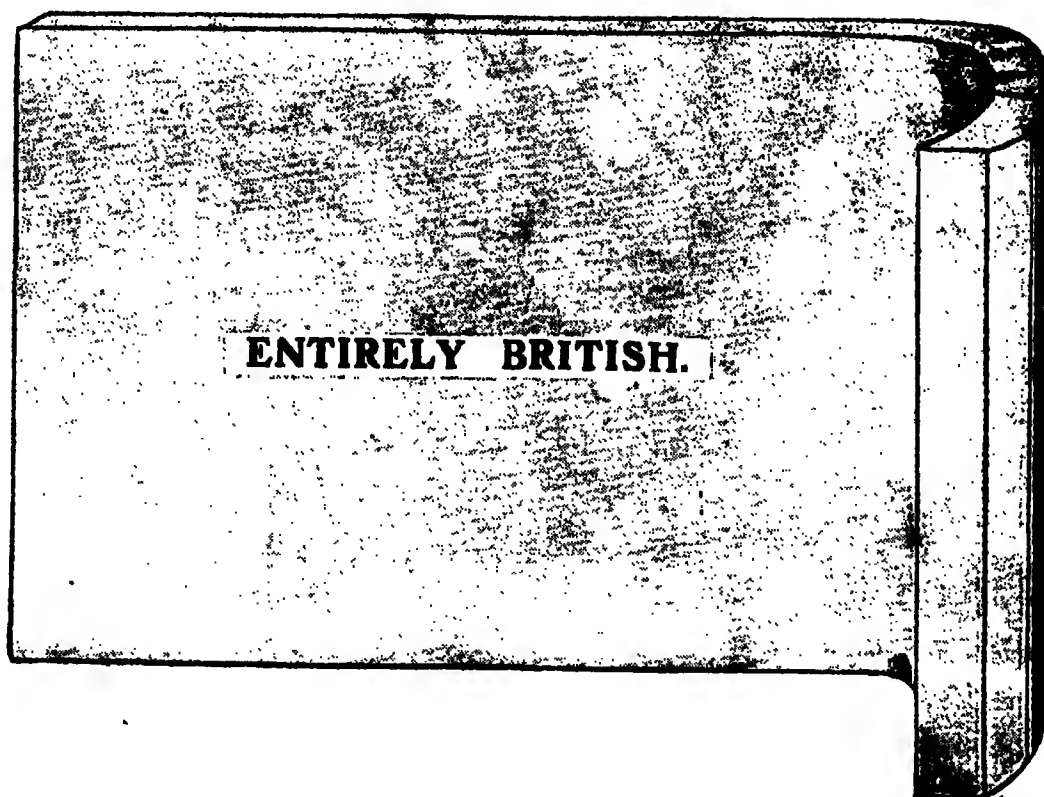
On rising to respond Mr. Dixon, who was heartily greeted, said that he did so with some diffidence. In the first place he was sorry that business had prevented the President of the Papermakers' Association being present in order to perform that duty. He, however, supposed that they



MR. J. DIXON

looked upon him to be (speaker) as one of the "good old has-beens," and he, therefore, had some satisfaction in finding his name associated with the toast. (Applause.) Mr. Dixon then went on to relate that his first experience in the making of "news" was in 1866. ("Shame.") It was no shame, because he was then earning 8s. a week, which was the standard wage for 72 hours. By the time he became a managing partner at Oughtibridge in 1871 he had learned a little about the manufacture of "news," and really, after 50 years, he was still learning, his lesson and had not finished yet. It was extraordinary the amount of research and study which was required in the manufacture of "news." New features revealed themselves every day, and that made the work so interesting. He supposed he was really the "father" of the "news" trade, being the oldest member in that room who made it, and it was interesting to note the progress that branch of the industry had made. (Hear, hear.) Nobody seemed to think there was such a trade until Lord Riddell and some others began to take notice of them. (Laughter.) He recalled with what wonder he received his first order for 2,000 reams of "news" at 4½d. a lb. in 1871 from the *Daily News*. From that time until 1874, covering the period of the Franco-German war, there was a period of great prosperity, and the Scandinavians and Germans pressed the market. Those conditions prevailed until 1884, when there came a change and they had an idea that there might be some measure of Government protection. Then the Boer War brought about another period of great prosperity, followed, however, by depression in 1893. About that time the newspapers began to encourage the importation of foreign paper, and when a papermaker got up to propose the toast of the Press at a particular function, that gentleman began with the words: "Damn the Press." (Loud laughter.) Mr. Dixon, continuing, next referred to the late war, when, unfortunately, they lost some of their friends. In the case of his own firm, out of 200, thirty never came back. Alluding to prevalent conditions,

MITC COUCH RO



The late R. J. C. Mitchell's Patent.

THE LIFE OF THIS JACKET IS UNSURPASSED.

WORKING ON MACHINES NOT ONLY IN THIS COUNTRY

MITCHELL BROTHERS' BRANCH

of

MITCHELLS, ASHWORTH, STANSFIELD & Co., Ltd.,

ELL'S L JACKETS

Applied with signal success in the manufacture of
ALL CLASSES OF PAPER and adopted by the
largest Paper Mills throughout the Universe.



Mitchell's Jacket is still "running" and holds all records.

IN ALL PARTS OF THE CONTINENT AND THE WORLD OVER.

ALBERT WORKS, WATERFOOT, Nr. MANCHESTER.

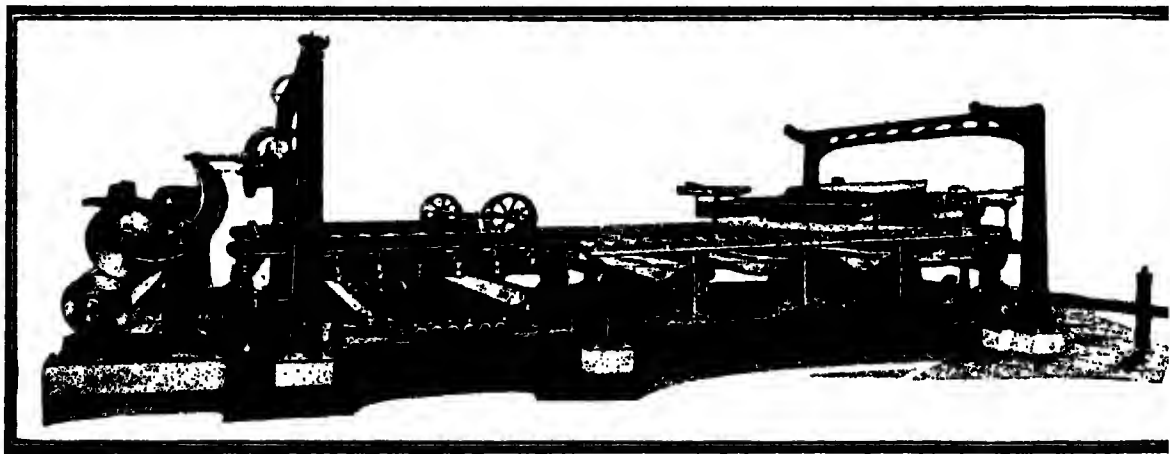
LONDON WAREHOUSE 23 & 24, Old Bailey, E.C.
MANCHESTER WAREHOUSE (Home Trade) .. 45, Newton Street, Manchester.

Telephone :
30 WATERFOOT.

Telegraphic Address :
"MITCHELL'S, WATERFOOT."

A/S. THUNES MEK. VÆRKSTED

AFFILIATED WITH
NORSK MASKININDUSTRI AKTIESELSKAP
CHRISTIANIA, NORWAY



PAPER MAKING MACHINERY

COMPLETE PLANTS FOR

SULPHATE PULP MILLS

AND FOR

SULPHITE PULP MILLS

CABLE ADDRESS :
THUNE.

CODES :
LIEBER'S & ABC 5th.

he observed that the restriction of the importation of foreign paper had helped to place the paper trade of this country under happier conditions. Proceeding, Mr. Dixon said he felt he was in the lion's den that night, and wondered how he had the temerity to speak before these wood pulp people, because they certainly had the papermakers by the short hair. (Loud laughter.) He hoped they would cease from bothering them. (Laughter.) He understood that some enterprising gentleman was going to find something in England which would meet the requirements of all "news" manufacturers. Well, he wished him God-speed. (Laughter.) Mr. Dixon then went on to refer to some remarks made at the annual dinner of the Papermakers' Association with reference to a conference he had with Lord Riddell in Bouverie Street. His lordship on that occasion observed that with a view, he supposed to impress him with the poverty of the papermakers, Mr. Dixon had come in his old clothes. (Laughter.) Observing that every dog had his day, Mr. Dixon said that they might have noticed an enormous hoarding advertising a newspaper with the largest circulation in the world and the best "News of the

World." (Laughter.) That was painted white on blue, but if they looked into the paper they would find that it was mostly blue on white. (Renewed laughter.) Concluding, Mr. Dixon expressed his thanks for their reception of the toast.

Mr. W. C. Powers, in the course of a brief speech, expressed the opinion that the troubles which faced the paper industry were not yet over either in this country or overseas, but they were going to face them with the best courage

possible and would overcome them. (Applause.)

Mr. S. Nicol, the chairman of the Executive Committee, next submitted the toast of "The Guests," and said that if it were true that a man was known by the company he kept, then he thought they of the British Wood Pulp Association might that evening feel a considerable measure of pride that they found themselves together with so many notable men of a notable trade, if he might follow a phrase used by Lord Burgham, who they all regretted was unable to be with them that evening. Proceeding, he said he rather feared that in some quarters a man had only to be associated with the sale of wood pulp for him to be at once branded as a prince of scoundrels, an archduke among robbers. (Laughter.) Not long ago he was having a little chat with a prominent member of the paper trade yes, he would say it—in Manchester, and during the conversation about that dinner the gentleman was kind enough to remark that he (Mr. Nicol) had recently been appointed chairman of the Committee of the Association, and asked how many members there were in his "jolly little Association." Mr. Nicol replied: "Well, I think there are about 40," and the papermaker's answer was: "I congratulate you, Ali Baba." (Loud laughter.) That, he thought, was merely the Lancashire vernacular for "old boy." Referring to the difficulties of the past few years, Mr. Nicol said they would never have been overcome but for the fact that the British paper trade possessed men of sterling character, outstanding ability, determination and enterprise. (Hear, hear.) Those difficulties were overcome by the men to whom he referred, and although they all of them knew that perhaps even greater difficulties faced them in future, with such men at the helm they were bound to triumph. (Hear, hear.) Great

Britain was justly proud of her papermakers, and they of the Wood Pulp Association were proud to welcome them in their midst. He would also like to say a word of praise in honour of those to whom the trade owed so much—those upon whom had been cast the burden of keeping this market supplied with the essential raw material of wood pulp. There were present that evening representatives of manufacturers of pulp in Norway, Sweden, the Dominion of Canada, and the United States of America. To their Scandinavian friends fell, in the main, the task, during the dark years of war, of keeping up the supply of wood pulp, and he hoped they would continue to give that aid. To their Transatlantic friends they extended a specially warm welcome, because there were a great many of them who saw from that quarter on the horizon a ray of hope, perhaps indicative of the panacea for some of the difficulties that now beset the paper trade. Mr. Dixon had thrown out the hint that if pulp prices were to rise any more he would jolly well make his own pulp in this country. (Laughter.) Mr. Dixon, of course, was out of date. (Renewed laughter.) He remembered, surely, that during the dark days of the war, pulp was made here. Had they forgotten sawdust? (Laughter.) Nevertheless, to Scandinavia, to Finland, and now, they must fervently hope, to the Transatlantic countries they looked for raw materials, knowing that increased production and decreased cost would make an appeal to every thinking man. Mr. Nicol thought it would not be altogether out of place if, on an occasion like that, he asked them to pay a tribute to others to whom the paper trade during the dark years owed so much. In extending a special word of welcome to Consul Eckell of Norway, Mr. Nicol recalled that it was Norwegian sailors who braved the perils of the Hun-infested seas in order to carry cargoes of pulp and deliver the goods. (Cheers.) It mattered not whether the pulp intended for Devonshire landed in Aberdeen; but at that first post-war dinner he wished to specially mention and include in the toast he was proposing the Norwegian sailors. (Cheers.) Now, what should he say by way of welcome to those who, perhaps, some of them loved the most—the consumers of paper? Without them, where should they be? Of course they commiserated with them that their food was costing them more, but they were glad also to observe no diminution in their shadow. (Laughter and applause.) Then they ought to remember the noble part which the newspapers played in the war, in the winning of which they had played a great part. After extending a welcome to Lord Riddell, Mr. Nicol said other sections of the paper trade produced men of considerable intellect, men who were able during the war to devise means for the utilisation of paper in many wonderful inventions for war purposes. A great deal of that work was necessarily secret; but if the whole history of the paper trade were laid bare, they would find that in that trade there were wonderful men who triumphed over extraordinary difficulties; and, although in the future difficulties might be immense, with such men at the helm the paper trade of this country must for ever prosper. (Cheers.) He coupled with the toast the names of Lord Riddell and the Consul-General for Norway (Mr. Eckell).

On rising to respond, Lord Riddell was accorded a very hearty reception. He said that it was very kind of the Committee to invite him to enjoy their delightful hospitality, and he thanked Mr. Nicol for the very courteous things he had said about him. He (the speaker) had asked their President whether all the gentlemen present were engaged in the pulp trade, and he had replied, "No, some were, but others were accessories after the fact." (Loud laughter.) On looking round, he discovered Mr. Dixon and others and at once realised that the room was infested with papermakers. (Laughter.) It was always gratifying to note the prosperity of others although one's feelings might be tinged with regret, and he must confess that he drank the toast of prosperity to the paper trade with certain reserva-



MR. W. C. POWERS.



MR. S. NICOL.

BRITISH DYESTUFFS CORPORATION LIMITED

Registered



Trade Mark

Works.

ELLESMERE PORT - HUDDERSFIELD - MANCHESTER

tions. (Laughter.) They were all anxious that the paper trade should be prosperous, but they did not want to see it too prosperous—(laughter)—and he doubted whether it was a good thing for the paper trade or the pulp trade to be too prosperous. He had noticed a cartoon in one of the papers, in which a gentleman was represented as being shorn of everything but his shirt. Well, some of the paper consumers still had their shirts, though some were very short and tattered. (Laughter.) While he was anxious that the pulp trade and the paper trade should continue to prosper, he hoped they would, at any rate, endeavour to leave them with their shirts. (Loud laughter.) Continuing, Lord Riddell referred to the remarks of Mr. Dixon, who, he



LORD RIDDELL.

said, was always interesting if one had a little insight into the psychology of Mr. Dixon. (Loud laughter.) That gentleman had told them that he had been engaged in research and study, and he said that the paper trade opened up avenues of thought. (Laughter.) He (Lord Riddell) was quite sure it did. (Loud laughter.) He could imagine Mr. Dixon in that mansion he had built for himself, at Grimsby, with his legs up on that beautiful Adams mantlepiece, engaged in conjuring up avenues of thought, and at the end of the avenue he was quite sure Mr. Dixon saw a vista of Lord Riddell and other newspaper proprietors in the shape of what the chairman had described as "the finished article." Well, they were not quite finished yet. (Renewed laughter.) Referring to the caustic observations which he (Lord Riddell) said had been made about the prosperity of certain sections of the newspaper publishing trades, his Lordship admitted that it had been prosperous, but, speaking quite seriously, it was obvious that if newspapers had to pay current prices for paper, it would be a practical impossibility for any newspaper to continue under existing conditions. Personally, he did not believe that those prices were going to last. They might last for some time, but the next time Mr. Dixon came to him he hoped he would come in his best suit. (Loud laughter.) He hoped that when he came, he would bring some paper with him, because he might say, when Mr. Dixon came to see him in that aged suit to which reference had been made, he came to excuse his non-delivery of paper. (Loud laughter.) Well, these things were over now. Though Mr. Dixon and he occasionally liked to have a little jocularly at each other's expense they were very good friends. He (Lord Riddell) congratulated Mr. Dixon upon his appearance, and he hoped that the next time he saw him he would have put on another layer of prosperity. Indeed he was one of those gentlemen between 70 and 80 who exuded prosperity at ever pore. (Loud laughter.) Speaking of the reliable character of British traders, the speaker said that while he was at the Peace Conference he was impressed with the fact that though the British, whether diplomatic, political, or commercial, might not make so great a show as other people, they were hard to beat. (Applause.) British papermakers had been passing through a period of unexampled prosperity, and, consistently with the interests of their customers, including himself, he sincerely hoped that might continue. He had no doubt at all that the wood pulp trade, being a very profitable trade, as he could see, must attract capital, and a great deal more wood pulp would be manufactured, and new and improved methods of manufacture might be discovered. He could imagine, therefore, that the price of wood pulp would fall considerably, while at the same time their profits would not fall in the same proportion. It was not their profit that the consumers objected to so much as to, perhaps, the price of the pulp. They had not been able to discover how much of the price was repre-

sented by profit, and how much by raw material. However, he hoped they would still leave the poor newspaper proprietors and other consumers of paper with a shirt. (Laughter and cheers.)

Mr. Waldemar Eckell, Consul-General for Norway, also responded, saying that first of all he must thank Mr. Nicol for his generous reference to the Norwegian people and seamen for their part in the war. It was with particular pleasure that they were able to assist this country, and he did not think they would have done it for any other. He had previously had the honour of responding to the toast of "The Guests" at their dinner. That was some years ago, but he remembered their warm welcome. He was not surprised then, because at that time pulp was cheap and conditions were generally excellent. Conditions were different nowadays, as they all knew, and he had come there that night a



MR. W. ECKELL.

uneasy, knowing that he had again to respond to the toast of "The Guests." He felt rather like a defendant answering a charge of profiteering on the part of his countrymen. He found, however, that the blame was laid upon the shoulders of pulp makers and was, therefore, very much relieved. (Laughter.) Mr. Eckell then went on to refer to the passport question, which he admitted had been somewhat difficult, but matters were now much better, and he thought that if he knew the firm he

would be allowed to dispense with the certificate from the Chamber of Commerce. They would only be too glad to see in Norway as many of them as cared to come, not only for their holidays, but for business. (Applause.)

The President said they had present that night a friend from Canada, and he would ask him to say a few words.

Mr. T. J. Stevenson, the Director of the Riordon Sales Co., Ltd., Montreal, who was received with applause, thanked those present for the welcome which had been extended to him, and said that he was proud to come from the Dominion of Canada, which was a country of great promise to the Empire, particularly in regard to pulp and paper. Canada had assisted in supplying raw materials to the Motherland during the war, and he was glad that he was able himself to contribute to that. He thought that in the future they would be able to do still more, because the Company which he had the honour to represent now owned the largest resources of any company in the world, having recently added to its resources 10,000 square miles of spruce and pine land in the Dominion. Those resources would be at the disposal of the paper trade in the near future. Mr. Stevenson proceeded to say that he had been on these shores only since the previous Monday week, and he had enjoyed the pleasure of English hospitality more than he could express. He only hoped that he would have the pleasure of seeing some of them on some future occasions on the other side. (Applause.)

The President then stated that he had a very pleasant function to perform on behalf of the Association, which was to hand to their late Assistant Secretary (Mr. Duguid) a little "scrap of paper" as a token of their appreciation of his services for the last twenty years or more. When the Association was formed he (Mr. Andrews) was the honorary secretary and Mr. Duguid was appointed his assistant. It was, therefore, with peculiar satisfaction that, as President, he had to hand to Mr. Duguid a cheque for £150 as an expression of their regard. (Applause.)

Mr. Duguid, in acknowledging the gift, said he found it difficult to express his thanks for the somewhat unexpected manner in which his services had been rewarded. He desired to thank them most sincerely, and trusted that the Association would long continue to prosper. (Applause.)

(Continued on Page 35.)

THOS. HARDMAN & SONS

LIMITED.

**FERNHILL MILLS,
Bury, LANCASHIRE.**

ESTABLISHED 1836.

London Office : FLEET HOUSE,
17 FARRINGDON AVENUE, E.C.

Telegrams { " Felts, Bury."
 { " Unbend, London."

Telephones { No. 41 Bury.
 { No. 62 Holborn.

**FELTS FOR
FAST RUNNING
A SPECIALITY.**

ALSO MAKERS OF
EVERY DESCRIPTION OF
:: CLOTHS ::
Used for Machinery Purposes.

**COUCH ROLL COVERS,
SECOND PRESS FELTS,
WET AND DRY FELTS,
BAG FLANNELS, &c., &c.**

BLANKETS, LAPPINGS, &c., :: FOR PAPER STAINERS, ::
PRINTERS AND LITHOGRAPHERS.

THE PULP AND PAPER INDUSTRIES OF CANADA.

MR. G. R. HALL CAINE ON THE OUTLOOK.

THE recent visit of Mr. G. R. Hall Caine to Canada on behalf of a number of newspaper proprietors and others, in connection with the pulp and paper trades, has excited widespread interest, and upon his return a few weeks ago he was good enough to give our representative some of the impressions which he had acquired during the two months tour in Quebec and other provinces of the Great Dominion.

Mr. Hall Caine prefaced his remarks with the statement that in Quebec alone there were 80,000 square miles of Crown timber limits. This area was equivalent to 51,200,000 acres, and, reckoning eight to ten cords of pulp wood per acre, was approximately capable of giving 512,000,000 cords in the province. Assuming that 4,000,000 cords per annum were cut for all the paper and pulp mills of Canada, these timber limits would last 100 years if all were cut down, regardless of size of tree, etc. In addition to Crown lands there are, of course, thousands of miles of Freehold limits.

Replying to the question as to the losses occasioned by forest fires, Mr. Hall Caine said that it was calculated that Quebec lost 18 trees by fire for every tree cut with the axe, while in the western provinces the estimate was somewhat higher, being 23 trees to one. This, he added, was a very serious matter and was one which was receiving the attention of the forestry authorities in Canada.

Continuing, Mr. Hall Caine said that 200,000,000 cords would be sufficient for the present production of pulp wood upon Quebec's forestry estimates of 40 years rotation cutting. It would, therefore, be possible to double the present capacity of all pulp and paper mills in Canada and situate them in Quebec and yet have enough pulp wood if judiciously cut to last them to eternity.

"Then what about the timber shortage and the high price of pulp?" our representative asked.

Mr. Hall Caine's reply was, "To the first question I answer there is no timber shortage, no shortage of pulp wood in Canada. There may be in the United States, where the pulp wood will only last 15 to 20 years at the present rate of cutting, while in Scandinavia there may be a shortage. I don't know whether that is correct, if Scandinavia is left to its own resource without imported timber, but I am told that there is need for conservation. In this connection, I might say, that all the schemes for protection, reforestation and conservation in Canada are but natural precautions."

Concerning the outlook with reference to mechanical pulp on the other side of the Atlantic, Mr. Hall Caine said that there were 37 mills making mechanical pulp with a production of 1,070,000 dry short tons. Thirteen of these used all their production—about 531,000 tons. Six used a portion of their output, selling the surplus in normal years. These mills produced 314,000 tons, of which they sold 36,000 tons, and the other 18 mills sold all their production of 232,000 tons. The amount of mechanical wood pulp for sale would thus be 268,000 tons, but he thought it would be more correct to say that about 250,000 tons was available for export, and to his certain knowledge 170,000 tons were coming to Europe. The normal average imports into the United States of mechanical ground wood over seven years was 220,000 tons a year, but this year he could only see 80,000 tons, or at most 100,000, coming from Canada; the rest must come from somewhere and the question was where?

With regard to sulphite pulp, the production of all grades in 25 mills (continued Mr. Hall Caine) is 699,000

tons per annum and of this 164,000 tons are bleached, leaving 554,000 tons of unbleached pulp available. Of these, 13 mills use 216,000 tons and eight mills sell their whole output 188,000 tons, which leaves about 300,000 tons available for export, about 100,000 tons coming to Europe to his knowledge. Mr. Hall Caine then went on to speak of the production of newsprint in Canada and the United States. Fourteen principal news mills, he said, produced 16,000 tons per week, of which 12,500 tons went to United States, 2,000 tons were used in Canada and 1,500 were exported to South America, Australia, Japan and Europe, leaving, he was told, less than 7,000 tons for Europe in the year. The output of newsprint in the United States in 29 mills was 21,000 tons a week. Practically all the newsprint is consumed in the United States, for he had been told that the only two exporting organisations—The International Paper Co. on the east coast and the Crown Willamette in the west—were giving up all export trades. There were also 23 mills in the United States making newsprint that did not ordinarily do so, and their output was estimated at 5,000 tons a week. It was estimated that the present weekly consumption of newsprint in the United States was 40,000 tons per week or 2,080,000 tons per annum, of which Canada provided about 700,000 tons. Great Britain's consumption was only about 450,000 tons. Most of the newspapers in the United States and Canada had agreed to cut off 15 per cent. of their supplies in order that the smaller papers might be furnished with stock. Mr. Hall Caine added that a few days before he left a complete census taken of the United States newspapers showed that they were 23½ per cent. short for the next three years.

Discussing the price of newsprint, Mr. Hall Caine said that in 1918, just after the Armistice, when no one knew quite where they were, a number of paper mills, both in Canada and the United States, hastily entered into contracts over two and three years at prices varying from 2½ to 4 cents a pound, with certain provisos which in the event of increased labour changes enabled the mills to raise their prices to the consumers, but in no case that he knew of was this rise to be more than ½ a cent a pound. Therefore, some papers in U.S.A. are receiving paper to-day at as low as 3 cents, while others are only paying 4½ cents during the operation of their contract. The great mills, like Spanish River, Abitibi, and Laurentide, now make most of their contracts on a 60 or 90 days basis, and the latest price was 5 cents a pound, while just before he left Canada, it was contemplated to raise the price to 6 cents a pound. All prices in Canada and U.S.A. are reckoned at the mill. In U.S.A. the price was uniformly higher.

Continuing, Mr. Hall Caine stated: "The amount of paper any mill sells under contract to one publisher is not sufficient to keep any of the great newspapers fully supplied, so they have to go on what is called the 'spot market,' where they pay 12½ or 13 cents for a proportion of their paper. Indeed, I know of one large concern who paid 15 cents for 4,000 tons just before I left New York, and I have an order in my bag for any quantity up to 2,000 tons a week at 14 cents a pound. The largest individual consumer in U.S.A. uses 700 tons a day, seven days a week. I am not going to enter into a controversy of recrimination, but I think the newspaper publishers of both the U.S. and Canada will now admit that the artificial fixing of prices is largely responsible for the present shortage of supply, and the present high prices. I may be told that there is no shortage of supply, because I cannot point to a single mill in England which has been closed down a single hour in the last twelve months through lack of supply. The same argument might be used to say there is no shortage of foodstuff in the world because we have all we want to eat, while at the same time we

LENDRUM

LIMITED

Paper Agents and Merchants

HOME & EXPORT

**3 & 4 St. Paul's Churchyard
LONDON, E.C.4**

Telegrams: "Instalment" Cent. London.
„ Foreign — "Instalment" London.

Telephone:
Central 7101 & 7102.

MANCHESTER
15 Quay Street

Telephone: 818 Central, Manchester.
Telegrams: "Lenquay," Manchester.

GLASGOW
16 Falfield Street

Telephone: 1969 South, Glasgow.
Telegrams: "Lendrum," Glasgow.

Branch Offices:
MELBOURNE
YOKOHAMA

Agencies at:
Calcutta, Bombay, Madras,
Hong Kong, Shanghai,
New York.

know that thousands in Austria, Armenia and elsewhere, are daily dying for want of food. We in England have plenty of food because we look after the transport, and above all are willing to *pay* for it. So we have pulp because we pay the top market price for it. But we know that in France, Italy and elsewhere little short of famine exists. And in America, I have myself seen mills shut down for a week or more because they had no wood pulp.

"But the United States are beginning to realise that supplies follow the price, and they are determined not to go short in the coming year—witness the order for newsprint to which I have referred—witness the emissaries they have sent to Scandinavia to buy wood pulp, and above all, witness the strenuous efforts the individual publisher and combination of publishers in the United States are making to secure paper mills and pulp mills in Canada.

"Of the 14 large newsprint mills in Canada at the present moment, only five can be said to be British, controlled by a British or Canadian capital, producing only 2,800 tons a week out of 16,000. All the rest, except one Belgian concern, are U.S. owned and controlled, and more are to follow.

"The pulp mills are in a somewhat better position, but during the short time I was in Canada I saw four pulp mills taken over by U.S. capital, and more important ones are to follow.

"The newspaper publisher of the U.S. has made up his mind that if he is to preserve his main property *he* must control his raw material. He may be right in this, he may be wrong, I am not here to express a personal opinion, it would be impertinent of me to do so unasked, I simply tell you the facts, which I am ready to prove up to the hilt. The last thing in the world I want to see is our raw material, our natural resources, passing into the hands of foreign countries, whether they be friendly or otherwise. And this is the last thing the Canadians themselves want to see, but they are, without our help, powerless to prevent it.

"To think of the paper mills of England dependent on the one hand on Scandinavia and on the other on an Americanised Canada, is to me unthinkable, and if something is not done it means the end of economic paper-making in England sooner or later.

"I said, during the later period of the Paper Control, that the price of newsprint in England would not drop below 3d. a pound for five years. After studying closely the situation in U.S.A. and Canada, I make another prediction, I say that unless something is done, and done speedily to relieve the tension, the price of newsprint in England will not, except in isolated cases, drop below 4½d. per pound for the next 10 years. And if nothing is done, I predict that 8d. a pound will be generally charged during 1921 and 1922, while 1921-1924 will be, in my opinion, the worst years."

Continuing, Mr. Hall Caine said that if he were asked, what was the proper method to pursue to find a solution of the present high price of newsprint and the threatened great shortage of this commodity, he should undoubtedly look for it in the wood pulp situation. "We know," he stated, "that a considerable number of paper-making machines are being put down in Canada, the United States and in this country, for the manufacture of additional newsprint, but no one has yet told us where the additional wood pulp is coming from. One can see movements afoot, such as the latest combine of Riordon to manufacture more sulphite pulp, and in various other directions is the sulphite production being increased, but so far as mechanical wood pulp is concerned, I see nothing but a decrease facing us. As the great newsprint mills in Canada get their new machines, not having increased their pulp producing capacity, they will draw from the market the quantities

of mechanical wood they are now selling, and this will make the position worse. It therefore calls for the increasing manufacturing capacity of mechanical pulp, and the point that has to be decided by capitalists in Great Britain is, whether the United States shall be allowed to increase this capacity for their own consumption, or whether British capital should put down mechanical pulp mills either in Canada or in Scandinavia. For many reasons which I could give, Scandinavia is not so attractive a proposition as Canada, reasons which are far beyond the sentimental leaning that we in Great Britain have towards the great Dominion."

"I hear, on my return to England," proceeded Mr. Hall Caine, "that some highly optimistic, but I fear singularly ill-informed gentleman has been telling newspaper publishers that they can count on substantial relief in the matter of newsprint from Canada in 1921. I completely and absolutely deny that statement. Statistics and all the calculations which it is capable for far-seeing business men to make, prove, that if the paper machine manufacturers maintain all their promises for new machines for Canada and the United States to the letter, the line of consumption and the line of production do not meet until some time late in 1924. This is not a cheerful prospect, and it is not made more cheerful by the fact that we know that it will be almost impossible, if not quite impossible, for the machine manufacturers to live entirely up to their obligations. I need only mention the moulders' strike in England as being one of the factors operating. This, I am told, has had the effect of throwing all machine manufacture back for nearly 12 months. Again, in contravention of the statement that paper is to come in ample quantities from Canada in 1921, I would only beg to say that one of the greatest British paper-makers in Canada told me an hour before my steamer sailed from Quebec, that he was very doubtful if he would be able to export to England in 1921 and 1922 even as much paper as he exported in 1920, and this was very little. I have other data which would prove beyond measure the truth of my statement. I am not, however, trying to unduly depress the situation, but only to tell you the facts as I found them, and I should be betraying the confidence which had been placed in me did I attempt to lead you to believe things which I did not myself believe."

THE FUTURE OF CANADA'S WOOD PULP SUPPLY.

In the course of a paper on "The Resources of Canada," read by Mr. C. Price-Greene, Commissioner of the Industrial and Resources Department of the Canadian National Railways, before a meeting of the Toronto Branch of the Society of Chemical Industry, the author stated:—"Unlike the United States, Canada need not fear concerning the future of her wood-pulp supply, provided that an extensive reforestation policy was at once put into force. The United States, on the other hand, was fast nearing the completion of her wood-pulp resources, and another six or seven years at the most would see their finish. This was not surprising when it was considered that the United States alone consumed one-half of the world's supply of white paper, involving the yearly consumption of 5½ million cords of wood. One Sunday edition of a Chicago paper used up the pulp equivalent of 40 acres of spruce trees. For all purposes, the United States consumed annually, of all kinds of wood, 244 million cords. A prominent American lumber-man had informed the speaker that within the next ten years over 3,000 lumber mills in the southern United States now operating on pine would be forced to close down, as the supply would be exhausted."

CASEIN.
GLUES & GELATINES
STOCKS KEPT.

CHINA CLAY
For Paper-Making and Coating.

TALCUM.

ULTRAMARINE.

SATIN WHITE.

MINERAL WHITE.
BLANC FIXE.

SAMPSON & WHITE Ltd.

6, Holborn Viaduct,
London, E.C.

BRITISH WOOD PULP ASSOCIATION.

(Continued from page 29).

The toast of "The Chairman" was entrusted to Mr. Nils Leander, who said he felt it to be an honour to propose the health of their esteemed President, Mr. L. P. Andrews. He believed Mr. Andrews was the senior member of the Association present, and that he was one of its founders, and for many years had acted as chairman of the Executive Committee. The members of the Association entertained for him the highest esteem and regard, not only because of the pains he had always taken in their work, but above



MR. NILS LEANDER.

all for his never-failing courtesy and his desire at all times to do what was right. Mr. Andrews always played the game in all senses of the word. There had been occasions when the firm and guiding hand of an experienced chairman had been very essential, and they were all indebted to Mr. Andrews for the assistance he had rendered them. That being so, when they lost Mr. Albert E. Reed, their late president, the choice of a successor fell upon Mr. Andrews, and he (Mr. Leander)

wished to extend to him on behalf of his fellow-members of the Association and all present that night their very sincere wishes for the future and gratitude for what he had done for them in the past. (Cheers.)

Musical honours were accorded the toast, and, on rising to respond, Mr. Andrews was very heartily received. He thanked those present for the manner in which they had honoured the toast, and Mr. Leander for the kind words in which he had proposed it. It was so nice to hear the absolute truth. (Laughter.) Mr. Andrews said that he had only once before been President, and that was when, while travelling in Finland and Scandinavia, he came down to breakfast one morning and found himself described as President Andrews. (Laughter.) Concluding, he thought they would all wish to thank the Sub-Committee for the excellence of the arrangements for their entertainment that night. (Applause.)

During the evening Miss Edith Eatherley, Mr. Walter Montagu, and Mr. Edward Dykes rendered a most delightful programme of vocal and instrumental music.

THE CORNISH CHINA CLAY INDUSTRY.

[FROM OUR ST. AUSTELL CORRESPONDENT.]

TUNDERSTAND that the rate of wages agreed upon from August last to the end of June between the Employers' Federation and the Workers' Union are not now considered sufficient and the Union have made an application for an increase of 4d. per hour. Before the war the rate was 7d. per hour for a 7-hour day for day-workers; piece-workers and dry-men being able to get considerably more. The present rate of wages current in the industry is 1s. 3d. per hour for a 42-hour week, working out at £2 12s. 6d. per man, although very few earn less than £3, and half-pay for time lost through wet weather. At a meeting of the Joint Industrial Council of the industry the employers offered an increase of 2d. per hour, which was rejected, the Workers' Union representatives on the Council offering to accept 3d. per hour increase and full payment for Christmas Day, Good Friday, Labour Day, and August Bank Holiday. The employers subsequently considered this proposition and made the final offer of 2d. per hour to date from June 28 and that no further application be made before December 31 and the payment of the four holiday days asked for being

subject to the men's acceptance that day. The men's representatives declined to accept the offer and decided to refer the matter to the Employers' Federation and Workers' Union, the meeting of the Joint Industrial Council standing adjourned accordingly. On Monday, June 14, the Joint Industrial Council met again when the employers intimated that they could not go beyond their offer of 2d. per hour and payment for the holidays asked for. The workers' representatives declined to accept it and it was agreed that the workers' representatives should refer the matter to a ballot of the men as to the acceptance of the offer of the employers or otherwise, in the event of rejection the matter to be referred to arbitration.

It has been suggested that in the event of the workers' side carrying the matter to arbitration the employers will withdraw from the Industrial Council, as they contend that by going to arbitration the object of mutual agreement for which the Council was set up is being defeated. Mr. Joe Harris, vice-chairman of the Joint Industrial Council for the China Clay Industry, and organiser of the Workers' Union, interviewed, ridiculed the idea that there was danger of the Industrial Council being broken up owing to the present wages disagreement. "There is no truth in the suggestion," he declared, "and I am very surprised it should have been made. The best feeling exists in the Industrial Council between the representatives of both men and the employers."

The increase offered by the employers is equivalent to eight shillings per week and ought to be considered a very reasonable offer because the producers are compelled to examine very minutely the labour costs, as the price of china clay is still an important factor in the recovery of pre-war markets. Considering the increase in the price of coal, timber, and every requisite, and now with the advance in wages, it will be found more expedient than ever before for china clay producers to introduce economy in every phase of production and extend the use of labour-saving devices. The unemployment in the china clay area has nearly diminished, the clay works having absorbed the major portion of those adapted for such work.

The renowned Caudlesdown China Clay Works, which have been working continuously for many years under the proprietorship of Messrs. Thriscutt and Bale, have just been acquired by Messrs. Grose and Stocker, a firm that is forging ahead in the china clay trade. Formerly, Messrs. Grose and Stocker relied more extensively upon the purchase of clay in large quantities for their vast clientage. Their recent acquisition of The Lower Lamsalson China Clay Works, the East Goonharrow China Clay Works, The Boskel China Clay Works, and the Caudlesdown China Clay Works illustrates the great enterprise and confidence of those associated with the industry for so many years.

The Caudlesdown China Clay Works were taken over by Messrs. Thriscutt and Bale 45 years ago, and the clay produced from these works had been notable for its whiteness and high quality. The productiveness of this mine has been remarkable and the ordinary output has often been exceeded by thousands of tons per annum. For over 30 years this mine has been under the management of Mr. H. S. Hancock, whose services have been retained.

The Bloomdale China Clay Company Works at St. Stephens have also changed hands. This firm has been bought out by some friends of Mr. W. S. Taylor, the managing director of the United China Clay Co. of St. Austell. The business will be carried on under the same name and although distinct from the United China Clay Company, will be operated from the latter company's offices at Grant's Walk Chambers, St. Austell. Although the United China Clay Co. is not an old-established concern, yet they have leapt into prominence as an enterprising firm. Their works at Weston and Trelavour (St. Dennis), Little Johns (Roche), and West Goonharrow (Bugle) have been considerably developed since their acquisition a few years ago.

HANDSOME GIFT BY MESSRS. EDWARD LLOYD, LTD.

AN ATHLETIC GROUND FOR PAPER MILL WORKERS.

With their characteristic forethought for the well-being of their employees, we understand that the firm of Messrs. Edward Lloyd, Ltd., of the Sittingbourne Paper Mills, have acquired the freehold of a spacious tract of ground near the town, to be used as an athletic ground (says the *East Kent Gazette*).

The ground in question consists of the two large meadows which abut on to the Tunstall Road, divided by the public footpath leading from the Recreation Ground to Gore Court Park. One of the meadows was in use during the war as a bombing instruction ground for the soldiers encamped in the Park.

Workmen are engaged in levelling the old bombing ground, a work that will take considerable time. But when it is in playing condition this field will make a splendid football ground, with sufficient accommodation for any possible gathering of people.

The field on the other side of the path, we learn, will be reserved for cricket. With very little trouble a fine pitch could be provided here.

Although about 15 acres have been purchased for recreation purposes, and in the negotiations, Mr. Frank Lloyd, the esteemed managing director, who is ever studying the social needs of his employees, took the leading part. In fact it is entirely due to that gentleman's initiative and enterprise that this magnificent space for the recreation of the workpeople has been secured.

In due time we understand that provision will be made to meet the wants of players of lawn tennis; and when men find they are not so lithesome as of yore, and their thoughts turn in the direction of the royal game of bowls,

they will be pleased to know that it is intended to put down a green whereon devotees of "the old man's game" may disport themselves.

Naturally it will take some time before "Lloyd's Athletic Ground" attains full maturity. But a start has been made with the work of preparation, and in all probability football will be played there next season. And then, next summer, all being well, we may expect to see cricket and other summer sports in full swing in their new home.

The munificence of Mr. Frank Lloyd and his co-directors, in acquiring this spacious ground for the benefit of the employees at the Sittingbourne Mills is deeply appreciated.

APPLICATIONS FOR PATENTS.

The following applications for patents have been filed at the Patent Office:—

BURKETT, D. J. Paper Slippers. 12,568. May 6.
ELMENDORF, A.—Determination of strength of paper, fabrics, etc. 12,591. May 6.

JONES, E. C. Treating sheets of paper, leather, etc. 12,274. May 4.

MCLAUGHLIN, J. E.—Fourdrinier paper-making machines. 13,634. May 18.

DOVERDALE, BARON.—Filtering, clarifying, etc., liquids. 14,030. May 21.

STRAUBEL, L. A.—Machine for cutting and interfolding sheets of paper, etc. 13,933. May 20.

TUENERT, C. L.—Process for the production of paper. 13,842. May 19.

TULLIS, J. & SON.—Belting. 14,022. May 21.

BOYLE, A. L.—Means for regulating speed of electrically-driven rolls on paper-making machines. 14,354. May 26.

BUSH, E. & H. Machines for varnishing or gumming sheets of paper, etc. 14,563. May 28.

ROYCE LIMITED.

—TRAFFORD PARK—
MANCHESTER.

SPECIALISE IN

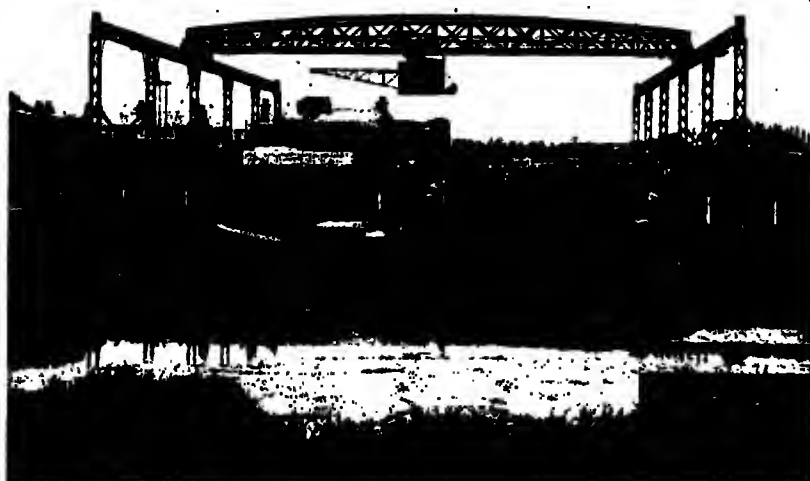
ELECTRICAL CRANES

AND

TRANSPORTERS

FOR

PAPER-MAKERS.



TELEGRAMS: "SWITCH, MANCHESTER."
PHONES: 690, 691 & 692, TRAFFORD PARK

PLEASE SEND US YOUR ENQUIRIES.

SIR FREDERICK BOWATER'S KNIGHTHOOD.

COMPLIMENTARY DINNER GIVEN BY THE STAFF.

IN recognition of the honour of knighthood recently conferred on Sir Frederick W. Bowater, a complimentary dinner was given by the staff of Messrs. W. V. Bowater and Sons, Ltd., at Andertons Hotel, London, on Wednesday, the 16th ult., Sir Frederick being the guest of evening.

The event was highly successful and there was an attendance of over 70. The chair was occupied by Mr. J. W. Howard (Town Department), and there were also present Sir T. Vansittart Bowater, Lady Frederick Bowater, Major F. H. Bowater, Capt. Noel Bowater, Mr. E. V. Bowater, Mr. R. Lane (Transport Dept.), Mr. J. Barnes (Home Dept.), Mr. F. J. Duck (Accountant), Mr. J. Stock (Shipping Dept.), Mr. W. J. Lomax (Counting House), and Mr. Fitt.

The following was the excellent menu provided :—

Thick Ox-tail.

Fillet of Brill Duglère.

Roast Lamb and Mint Sauce.
New Potatoes. Peas.

Pudding Normande.

Bombe Glacé.
Wafers.

Cheese and Biscuits.

Coffee.

At the reception prior to the dinner the lady members of the staff presented Lady Frederick Bowater with a handsome bouquet. The after-dinner speeches were both numerous and interesting. The toast of the King having been honoured, the Chairman stated that they had assembled there to do honour to Sir F. Bowater and to congratulate him on his well deserved knighthood. (Loud applause.) They were all very delighted to have Lady Bowater there, and the other members of the family. There was not the slightest doubt that the Bowater family had a record of which any family could be proud, not only as a business firm but also on account of their achievements during the late war. Sir Vansittart Bowater had been Lord Mayor of London, and had received a baronetcy. Then, they had a knight in the firm in Sir Frederick Bowater and they were looking forward with confidence to the time when their gallant major became Sir Frank Henry Bowater. (Loud applause.) Sir Vansittart Bowater gave his four sons to the War, every one of them seeing active service for their King and country. Major Bowater not only gave his son, but he gave himself, and that was a splendid thing. (Loud applause.) Sir Frederick Bowater gave his all. He gave his only son, and they would all remember how badly he was crippled, but very glad indeed that he was

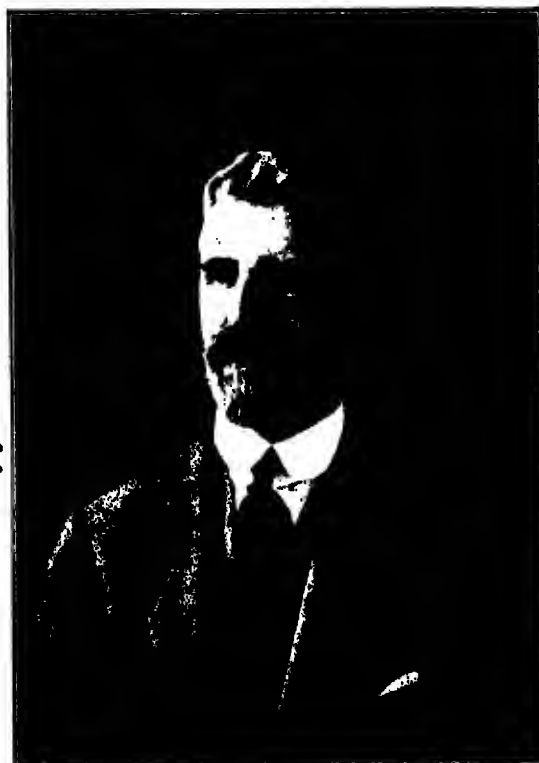
now well on the way to perfect recovery. (Applause.) The firm had a loyal staff and he knew as an old servant that as the firm prospered so the members of the staff prospered accordingly. After all, it was up to them to do their best to see that the name of Bowater achieved even greater success than it had up to the present.

The Chairman then formally presented to Sir Frederick and Lady Bowater an inscribed gold fountain pen each. In regard to the former, he said that they hoped it would give greater power to Sir Frederick Bowater's elbow when he was signing cheques. (Laughter.) In conclusion, Mr. Howard said that he hoped Lady Bowater would accept her fountain pen as an indication of the respect in which she was held by them.

Mr. Barnes expressed the appreciation with which the general staff of the Company felt in regard to the distinction conferred upon Sir Frederick Bowater. Mention had been made by the Chairman of the great part taken in the War by members of the Bowater family, and he did not think that it would be out of place at this juncture if he recalled the fact also that few firms in the country had sent a greater proportion of their staff to the War than W. V. Bowater and Sons. That function could scarcely have been arranged but for the men who had fought and bled for their country.

Other speakers were Mr. Stock, Mr. Lomax, Mr. Lane, Mr. Fitt, Mr. Duck, Mr. Smith, and Miss Hayes (of the export department), all of them speaking very highly of the firm and of the way in which both employers and employees co-operated.

Sir Frederick Bowater said he had received many letters and telegrams of congratulation on the honour which had been conferred upon him, but there



Photo]

[Elliott & Fry.

SIR FREDERICK W. BOWATER, KT.

was not a compliment which he appreciated more than the one paid him that evening. He thanked them for their kindness in entertaining Lady Bowater and himself and for the equally kind speeches which had been made by the various representatives of the firm. He would like to make reference in the way of regret upon the absence many thousands of miles away of a most respected member of their staff, namely, Mr. Capern. ("Hear, hear," and applause.) There was another member of the staff who was not present and that was Mr. Hughes, who had expressed his regret at not being present, as he was away on holiday. Mr. Howard, their chairman, was an old and valued member of their staff, having been 32 years in their service. He was sure Mr. Howard would not mind him saying that he had risen during that time from quite a small position to his present position entirely by his own ability, and he hoped Mr. Howard would remain with them for all time. (Hear, hear.) Mr. Barnes had gone through a great deal during

the War and they were delighted to see him back again looking so robust and well after his experiences. Mr. Lane had been with them about 20 years. At the beginning his department was very small, but owing to his ability and the loyal staff he had around him it had now become one of the most important wharfwages in the city of London. He believed that even now that department was only in its infancy.

Sir Frederick Bowater also referred in appreciative terms to the services of Mr. Smith, Mr. Duck, Mr. Lomax, Mr. Stock and Miss Hayes. In regard to the last named, he said that she had had much responsibility put upon her during the war when so many of their staff had gone. He added that nothing pleased the Directors more than when they were signing bigger cheques. Regarding the reference to Major Frank Bowater, he said his brothers felt most proud of him. At the age of nearly 50 he gave up his time and took the risk of giving up his life to fight for his country. He did valuable work for his country at the front, devoting five and a half years away from his wife and family and very pleasant home and business surroundings to the hardship of that long War. He also mentioned the services rendered by Mr. Rainald Bowater and Capt. Noel Bowater, who had received the Military Cross. His own boy, he was thankful to say, was much better. Two or three skilful men had given him back the use of his limbs, and his only regret was that he was not restored to good health in sufficient time to give back to the Germans a little of what they gave him. (Applause.)

He thanked one and all from the bottom of his heart for that nice gathering. He could only hope that that would be one of many pleasant unions of their respective departments, and that those present would remain with them for a long time to come. The more successful the members of the staff were, the more pleased the Directors would be, and the better it would be for themselves.

The audience then joined in the singing of "For he's a jolly good fellow."

Sir Vansittart Bowater said that it was with a great amount of pleasure that he was able to say a few words. He wished to endorse everything his brother had said with reference to the staff. They were very proud of their staff and he thought that every member realised that the Directors took an interest in their personal welfare. He said there were men there who had attained exceedingly good positions and who had started in a very humble way. He could remember some who had started as young boys, and never anticipated that they would attain the position in which they were now. Those positions were attained by their own ability and the Directors encouraged them in every possible way, and they would encourage every member of the firm to better his position in increasing stages. They wanted the young members of the staff particularly to realise also that in working for them they were also working for themselves. They were getting older and vacant positions would follow in the natural order of things. Many firms had looked with jealousy on the success of Messrs. W. V. Bowater and Sons, but as great as had been their success he thought that they had by no means reached the end of it. It was very delightful to him to see so many ladies present. One could hardly realise that a few years ago there was not a single lady employed in a business firm in the city. They were very proud of their lady members of the staff, and they had in Miss Hayes one of the ablest ladies in any of the business houses in the city. (Applause.) He wanted them to feel that whenever they had a grievance they could always approach the heads of the firm on the subject, and if that grievance could be remedied it would give the heads of the firm great pleasure in doing so. The firm were anxious that they should earn good incomes, but they must earn them. They must not, and he felt sure they would not, act like some of the labour men at the present who

wanted big salaries without doing anything to earn them. Unless the employees helped the firm that firm could not prosper.

Observations were also made by Major Bowater, Mr. Eric Bowater and Capt. Noel Bowater, and finally by Lady Bowater, who returned thanks for the handsome present which she had received from them.

The proceedings concluded with a vote of thanks to the Chairman, proposed by Mr. Lomax, seconded by Sir Frederick Bowater.

THE PAPER SITUATION IN SWEDEN.

THE Stockholm correspondent of the *Morning Post*, writing on the 7th ult., states:—The paper market in Sweden is still very unsettled. Recently the Paper Manufacturers' Association held a meeting, at which it was decided to raise further the prices on writing and printing paper on account of the ruling high price for wood-pulp. As big contracts in the latter article are reported to have been made at exorbitant charges so far ahead as the summer of 1921, it is hardly possible that paper prices will recede. The situation has been the subject of official investigations, with the result that the paper mills will be permitted to raise their prices for paper to the Swedish newspapers from 47½ to 75.8 öres a kilo, which is equivalent to 5d. a pound, on the understanding that the supply is limited to 10,000 tons a year. For any further quantity higher prices are to be charged. The actual cost for producing the paper is, however, put at 90 öres, or 1 krona to the kilo, i.e., 6½d. a pound.

Speaking in the Diet, the Premier, M. Branting, in reply to an interpellation, said that Government intervention would involve other problems beyond the paper supply, and any prohibition of export would have to be preceded by careful commercial and political investigations. He did not think either proposal feasible for the moment without taking up a number of other more important questions. Later on it might be necessary for the Government to resort to drastic measures should the way of friendly reconciliation not lead to a desired result. By way of comparison it may be said that the price of paper paid by newspapers in Norway is 55 öres a kilo, or about 4d. a pound, while that paid in Denmark is 6½d. a pound. In Finland the newspapers have asked the Government for an export veto.

The report of Hazell, Watson & Viney, Ltd., for year ended March 31, 1920, states that net profits, after providing for all expenses, is £48,129; £15,819 was brought forward, making £63,948. Deducting debenture interest (less tax), preference dividend (less tax) and interim dividend (less tax) on ordinary there is left £52,302. Directors propose to pay a final dividend of 12s. per share on ordinary, which absorbs £10,200, and makes with interim dividend, 10 p.c., free of tax, and to carry forward balance of £42,006. The directors state that owing to the continued expansion of the business they consider it is necessary to obtain powers to increase the share capital of the company, and they propose that the authorised Ordinary share capital should be increased to £330,000. The undivided profits accumulated during recent years are now a substantial sum, and the directors consider that a portion of them should be capitalised in the form of bonus shares. Owing to the very considerable increase in the rate of wages paid, and the heavy and increasing cost of machinery and materials, the company requires a larger working capital, and the directors consider that it is therefore better to retain these undistributed profits in the business. They propose to issue, free of cost, to the ordinary shareholders three fully-paid ordinary £10 shares for each ten ordinary shares held, such shares to rank for dividend from April 1 last. When these bonus shares are issued, the subscribed ordinary share capital will amount to £223,000.

ACTION FOR INFRINGEMENT OF PATENT.

WALLACE AND OTHERS v. TULLIS, RUSSELL & CO., LTD.

THE following report of an action heard before Lord Blackburn in the Scottish Court of Session appeared in a recent issue of the Supplement of "The Illustrated Official Journal (Patents)":—

This was an action for infringement of Letters Patent dated the 18th of April, 1916 (No. 104,578 of 1916) for improvements in and relating to the removing of esparto or the like from stationary digesters used in papermaking and the like.

The Pursuers were William Morgan Wallace, managing director of the Carrongrove Paper Company, Ltd., paper manufacturers, Carrongrove, Denny, in the County of Stirling; Thomas Marshall, engineer, and Andrew Brown, electrician, both to the said Carrongrove Paper Company, Ltd.; Bertrams, Ltd., of Saint Katherine's Works, Seimmes, Edinburgh, engineers, and the said Carrongrove Paper Company, Ltd. The Defenders were Tullis, Russell and Co., Ltd., paper manufacturers, Auchmuty Paper Mills, Markinch, Fife.

The Patentees were the Pursuers other than the Carrongrove Paper Company, Ltd., and they assigned the Letters Patent to themselves and the Carrongrove Paper Company, Ltd., by Assignment dated the 6th, 11th, and 23rd of December, 1918.

The action was commenced on the 30th of October, 1919. The Pursuers sought to interdict the defender "from using, exercising, or putting into practice during the continuance of said Letters Patent and without the consent or licence of the Pursuers, any process, method or appliances for the removal of digested grass from stationary grass digesters" in infringement of the Letters Patent, and, in particular, "from using the process or method of applying jets of water under pressure to disintegrate and break up the digested grass in stationary grass digesters and to wash it out of the digesters." The summons also concluded for an account of profits or alternatively for damages.

The Pursuers averred that the Pursuer, William Morgan Wallace, with the assistance of the other Patentees, devised, after many experiments, the process for the protection of which the Letters Patent were obtained. They claimed that the process had in practice proved a great success and that a large saving in wages, together with an increase in the yield of pulp and an improvement in the manufacture of the paper, had resulted from its adoption in paper manufacture. It was also averred as follows:—"Further, the introduction of the patented process has made it possible for the first time to adopt much larger digesters than the standard 9 ft. by 9 ft. boilers. This effects a large saving in the cost of erecting new boiler plant and in the working expenses after erection. Larger digesters with the patented process are now being introduced into several mills."

The Pursuers averred further that the Defenders had infringed their Letters Patent by using a process or method substantially similar to that of the Pursuers, and in particular "by applying jets of water under pressure to disintegrate and break up the digested grass and wash it out of the digesters." It was averred that the Pursuers were in the habit of charging a payment or royalty of £225 in respect of each boiler to which the patented process was by licence of the Pursuers applied, and that the Defenders had illegally applied the said process to twelve of their boilers.

The Defenders denied the infringement and averred (*inter alia*) that the alleged invention was neither novel nor useful, and was not the subject-matter of a grant of Letters Patent within the meaning of the Act. In

particular they stated:—"The said alleged invention was not, at the date of said Letters Patent, of any practical utility and the Defenders believe and aver that the same has not in fact been put in use." They did not admit that digesters with said patented process were being introduced into several mills.

On January 27, 1920, the Lord Ordinary closed the Record on the summons and defences and allowed parties a proof of their averments on Record so far as relating to the validity of the Letters Patent and infringement thereof.

Thereafter, on March 11, 1920, the Defenders applied for a diligence. The Defenders, after certain adjustments, called for (*inter alia*) "(2) All letters, telegrams, reports, specifications, plans, sketches, memoranda and other written communications passing between the Pursuers, or any of them, or any one on behalf of them or any of them, and anyone acting as patent agent to them, or any of them, prior to March 15, 1917" [the date of acceptance of the complete Specification], "relating to the preparation of the Specification or the grant of the said Letters Patent. (3) All written licences, permissions, agreements, or other contracts granted or entered into by the Pursuers or any of them, or anyone on behalf of any of them, and the business books, ledgers, day books, minute books, and other books kept by the Pursuers, or any of them, for the period subsequent to April 18th, 1916, that excerpts may be taken from such written licences, etc., and business books, etc., at the sight of the Commissioner, of all entries showing or tending to show the number of machines, or parts of machines, made, or sold, or licensed to be used, or in use, in accordance with or under the Pursuers' said Specification or Letters Patent, and the names and addresses of all persons to whom such sales or licences may have been made or granted."

Sandeman, K.C., and D. M. Wilson (instructed by Finlay and Wilson, W.S., for Learmonth & Kennedy, W.S., Falkirk) appeared for the Pursuers. Macmillan, K.C., and H. Burn Murdoch (instructed by Davidson & Syme, W.S.) appeared for the Defenders.

Burn Murdoch for the Defenders cited *Moseley v. The Victoria Rührer Company*, 3 R.P.C. 351 (1886) in support of the Defenders' call under head (2), and founded on the averments referred to above in support of the Defenders' call under head (3).

Sandeman, K.C. in reply.

The Lord Ordinary, without delivering a judgment, issued an interdictor granting diligence for the recovery (*inter alia*) of the documents referred to under heads (2) and (3) of the Defenders' call.

We have received from the French Paperstock Co., Ltd., 24-30, Bermondsey Wall, London, S.E.16, a sample book of British-made tub-sized air-dried bond papers. These are stocked in white and tints with ordinary or linen finishes. The samples are prefaced by some "live" observations and we extract the following:

"Environment is the greatest help to refinement! Some think that a desk and a barn are all that a business man requires, others that a well-furnished office, and up-to-date and clean surroundings are essential, chiefly because it adds refinement to the firm, and indirectly all who work for it. The same applies to *Letter Paper and Note Paper*. A falsely economical and mean firm can be distinguished by its cheap and nasty letter paper and stationery; they save pennies and lose hundreds of pounds of business."

Very naturally the preface advises readers to "use a distinguished paper, such as Brechtlock Bond and have beautiful stationery." The quality of the papers throughout is excellent and should meet with a ready sale.

Type 'B' Patent Portable Troughed Conveyors



These Machines are at work in almost every trade. They immediately cut your labour costs in half, at the same time handle more than four times the amount of material previously handled.

Our Type "B" Portable Trough Conveyor, shown in the above illustration, is designed to handle a variety of material horizontally or at a slight incline. Material can be placed on the conveyor at any point between the feed and discharge end, or we can furnish a feed hopper at the receiving end. The machine is of light construction to retain portability. The closely spaced troughing idlers provide a strong belt support to carry heavy pieces weighing up to 200 lbs.

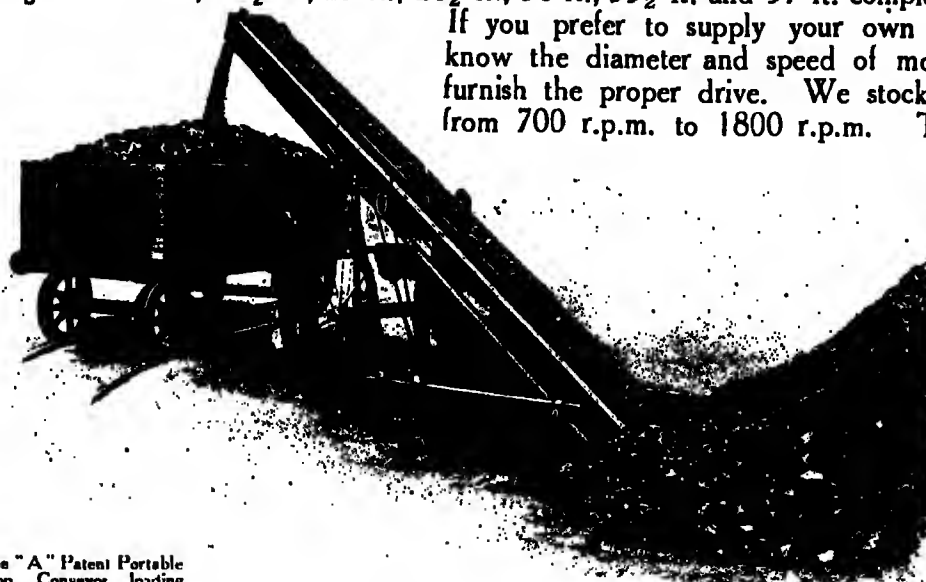
We can furnish TYPE "B" CONVEYORS with 16" or 18" wide belts in the following lengths:—16 ft., 19½ ft., 23 ft., 26½ ft., 30 ft., 33½ ft. and 37 ft. complete with electric motor.

If you prefer to supply your own motor, we require to know the diameter and speed of motor shaft in order to furnish the proper drive. We stock drives to suit motors from 700 r.p.m. to 1800 r.p.m. These Conveyors can

also be arranged for petrol drive.

By working one 'B' Type in conjunction with an 'A' Type a most flexible conveying system may be arranged.

Let us make arrangements for you to see these conveyors at work.



Type "A" Patent Portable Scoop Conveyor loading from pile into truck.

Sole Selling Agents—

Established 1790

C. H. JOHNSON & SONS, LIMITED

Telephone:
01 CHEETHAM HILL

Smedley Road, MANCHESTER

Telegrams:
IRKDALE Manchester

MRS. WALTER WILD, J.P.

RECOGNITION OF VALUED CITIZENSHIP.

After an active life of varied usefulness in the public service of the country, Mrs. Mona Wild, widow of the late Mr. Walter Wild, of The Elms, Whitefield, was recently made a County Magistrate, being the first lady magistrate to be appointed in the district. Needless to say, the bestowal of the honour created intense satisfaction among the inhabitants of Whitefield and surrounding districts, irrespective of class or creed, who hold her in the highest esteem for her many social qualities and uniform kindness of heart.

Mrs. Wild kindly gave the writer an interview recently, when a request was made for some particulars about herself and her public work for many years past.

Mrs. Wild is a native of Brockenhurst, Hampshire, being a daughter of the late Mr. and Mrs. Gibson, and was married in Oxfordshire to the late Mr. Walter Wild some thirty years ago. Mr. Wild died in 1916, leaving a family of five surviving sons and one daughter. The eldest son, John Percival Wild, while away at school, at the age of ten was accidentally drowned. Two of the sons are closely connected with the paper trade, viz., Mr. Walter Leslie Wild, who is in the chemical laboratory of Messrs. John Wild and Sons, Ltd., Paper Mills, Radcliffe; and Mr. Henry Cecil Wild, who is with Messrs. W. G. Taylor & Co., Ltd., wood pulp agents, London. A third son, Mr. Basil Newman Wild, is in the wool trade at Bradford, and Masters Roland Gibson Wild and Oliver Stanley Wild are away at school, while the one daughter, the youngest child but one, aged 12, Miss Rosalind Mona Wild, is also away at school, a veritable "cherry ripe," favouring her distinguished mother, and idolised by her family and friends.

Mrs. Wild, who is a director of the Broad Dunters Paper Mill, taking the position on the death of her husband, has been actively engaged in public and charitable work practically all her life since she left school. The early part of her married life was spent in Bury, and twenty years ago the family removed to The Elms, from which centre a very active and useful life has been spent. Despite the cares of family life and the management of a fairly large establishment, the great amount of outside work Mrs. Wild has been able to accomplish, and so successfully, is remarkable. In 1914 Mrs. Wild was elected on the Board of Guardians, and has been returned unopposed at the expiration of each term of office—a sufficient proof of the esteem and confidence with which the electors regard her. She is the first lady President of the Radcliffe Literary and Scientific Society, which consists of 240 members. She has done useful work on the Committee of County War Pensions. Moreover, she is one of two representatives of the parish on the Manchester Diocesan Conference, women

being appointed for the first time this year. A valued member of the Committee for the Prevention of Cruelty to Children, I understand Mrs. Wild is the only lady in the neighbourhood who acted on the executive at the beginning of the work. She is also a member of the Ladies' Committee of Bury Infirmary. In connection with the Parochial and District War Memorial Committee, Mrs. Wild is an active member—in fact, she has been actively identified with every parochial association in connection with Stand Parish Church. During the war, Mrs. Wild was always to the fore in any movement or effort that women took in hand, being on the War Savings Committee and on the Food Control Committee. Besides all these activities Mrs. Wild has taken a deep and practical interest in the Child Welfare movement, being an enthusiastic member of the County Council Child Welfare Committee. It is interesting to note that the institution at Uplands, which is considered the best situated and equipped in the country, was formerly the residence of the late Mr. John Wild, founder of the firm of Messrs. John Wild and Sons.

It may easily be imagined that after all these years' experience of public life, Mrs. Wild has acquired a thorough and varied knowledge of men and things, and therefore must be a valued colleague on any public body or institution to which she may be appointed. A fluent speaker Mrs. Wild always receives careful attention and consideration from any assembly she addresses. As president of the parochial Girls' Club, she is greatly beloved by the members.

Mrs. Wild's latest work was in connection with the recent successful bazaar at All Saints' Parish Church, Stand, in aid of the Church restoration, to raise £2,500. The bazaar was formally opened by her on the first day, when she made a very interesting and inspiring speech. Apart from the

opening ceremony, Mrs. Wild was among the patrons, a member of the Bazaar Committee, and president of the Congregational Stall No. 1. Her son, Mr. W. Leslie Wild, was also actively engaged on the committee, in addition to being a joint hon. secretary.

By the way, I noticed in the bazaar handbook that the local paper trade was well represented therein. Among the other patrons were Mrs. J. Herbert Wild, Mr. C. R. Seddon, J.P., Mr. John Seddon, and Mr. G. T. Temperley, while Mrs. C. R. Seddon (Beechwood) was on the committee, and was also president of No. 2 Congregational Stall, with Mrs. John Seddon as one of her assistants. Mr. C. R. Seddon, J.P., I noticed, was chairman on the second day of the opening of the Bazaar, which, I may add, more than attained its object, for it realised over £4,000.

Mrs. Wild may rest assured that all who know her wish her many years of service in all her multifarious activities, and certainly none the less in her new role of Justice of the Peace for the County of Lancaster.



[Photo]

[Lafayette, Manchester.

MRS. WALTER WILD, J.P.

COMPLIMENTARY LUNCHEON TO MR. JOHN EBERSTEIN.

In our last issue we congratulated Mr. J. E. Eberstein on attaining his 50th birthday, and mentioned the fact that a number of his friends had decided to entertain him at a complimentary luncheon at the Savoy Hotel. This gathering was arranged for May 12th, but actually took place on the 27th. The postponement was agreed upon in consequence of the sudden death of the Crown Princess of Sweden, who, it is rather pathetic to remember, was entertained by the Swedish Colony in London in the same hotel a comparatively short time ago. Although the luncheon was organised by the Swedish Chamber of Commerce, of which Mr. John Eberstein is a Vice-President, it is well-known that his kindly interests cover a wide field, and his honorary efforts include a governorship of the Swedish Church in London, the treasurership of the Anglo-Swedish Society, while he takes a very active interest in the Swedish Chamber of Commerce in London, and keeps a very watchful and helpful eye in maintaining the good relations between Sweden and Great Britain.

In the year 1918, the King of Sweden conferred upon Mr. John Eberstein, the honour of Knight Commander of the Vasa Order, and we all recognise that in Mr. Eberstein we have a very high type of the Swedish merchant-gentleman.

The Swedish Minister, Count H. Wrangel, occupied the chair, and he was supported by Mr. E. G. Sahlén (Consul General), the Military and Naval Attachés (Lieut.-Colonel Mossberg and Capt.-on-Tiseli), and the following gentlemen: Messrs. E. B. Westman, H. Löwenadler, C. A. Löwenadler, H. Bendixson, L. Larsson, Axel Welin, T. B. Nuttall, O. Reich, H. Buck, A. Heath, A. D. Panton, V. Olsson, Dr. E. Cyriax, S. Kreuger, Dr. M. Widegren, E. Flygt, S. Stewart, S. J. Harris, J. L. Greaves, G. W. Atter, C. W. Cedervall, E. Saxine, W. H. Palmer, C. Lithwin, T. H. Jensen, H. O. Apell, H. Valentine, V. Dahlerus, J. R. Schöle, J. A. Noddberg, T. B. Berner, F. Kreuger, Major H. J. Rickes, N. Leander, F. W. Berry, O. Vendel, C. E. Hunter, A. Anderson, G. Z. Westling, L. Danielson, Carl Eberstein, E. Clarsen, Major C. W. Lundgren, E. Samuelson, T. Fischer, J. O. Böving, A. C. T. Helleström, J. Strömwall, and B. de Maré.

After a *recherché* luncheon, Mr. Bendixson proposed the health of their Guest in very kind terms. He said that Mr. John Eberstein had earned the affection of them all and of very many more who were not present in that room. Mr. Eberstein had done valuable work in holding together the Swedish Colony and maintaining the good relations between Sweden and Great Britain, and they were particularly indebted to him for his work in connection with the Chamber of Commerce, of which institution he was one of the founders. It was largely due to Mr. John Eberstein that the Swedish Chamber of Commerce held the strong position it does to-day. When he looked at Mr. Eberstein he had serious doubts in his mind as to whether their guest had really reached his 50th birthday or not. He could scarcely believe it, but Mr. Eberstein was usually very truthful, and he assured them it was really the case, so they must take his word for it. However, he seemed to have the secret of perpetual youth. Mr. Bendixson said he had the greatest possible pleasure in handing to Mr. Eberstein a soup-tureen of George III period, and sincerely hoped that the recipient might be spared for very many years and enjoy good health and prosperity.

The toast of Mr. Eberstein's health having been cordially drunk, Mr. Eberstein briefly and feelingly replied, saying that whatever little he had been able to do to hold together the Swedish Colony, had been a labour of love and their kindness.

In the evening the Swedish B.V. Club arranged a festive gathering in Mr. Eberstein's honour, and presentations were made of silver cups of chased design.

NEWSPAPER WORKERS AND PAPER-MAKING.

VISIT TO IMPERIAL MILLS.

With the object of enabling those engaged in various departments of newspaper work to acquaint themselves with the processes of paper-making, a series of visits to the Imperial Paper Mills, Gravesend, where a considerable amount of the paper for *The Times*, the *Daily Mail*, and the publications of the Amalgamated Press is made, was inaugurated recently, when a party of representative officials from the printing trade unions journeyed from London to Gravesend by *chars-à-bancs*. The idea was suggested by Lord Northcliffe on the occasion of the opening recently of the Natsopa Memorial Home at Wellsborough, Leicestershire.

In the absence of Lord Northcliffe, who was detained at Manchester (in connection with trade union matters), the guests were received at the mills by Sir Campbell Stuart. The many interesting phases of paper-making were explained by Mr. W. H. Salmon, the managing engineer, and the other managers. On behalf of his colleagues Mr. H. Wilson Howes returned thanks to Lord Northcliffe for what, he said, was one of the most wonderfully interesting afternoons the representatives of the newspaper and printing trades workmen had ever had. The guests were: Mr. E. Tomkins, Amalgamated Typefounders' Society; Mr. H. J. Morriss, Amalgamated Association of Pressmen; Mr. R. Kneale, Society of Lithographic Artists; Mr. S. F. Crampin, Correctors of the Press; Mr. J. Elvery, Litho Stone and Plate Preparers' Society; Mr. T. E. Naylor, London Society of Compositors; Mr. F. A. Davies, London Society of Compositors; Mr. H. Morter, London Society of Machine Rulers; Mr. G. A. Isaacs, National Society of Operative Printers and Assistants; Mr. C. Hollis, National Society of Operative Printers and Assistants; Mr. H. Wilson Howes, Printing Machine Managers' Trade Society; Mr. C. Carrington, Printing Machine Managers' Trade Society; Mr. W. Niblett, Platen Printing Machine Society; Mr. W. C. Warren, Electrotypers' and Stereotypers' Society; Mr. H. W. Clark, Electrotypers' and Stereotypers' Society; Mr. T. G. Newland, National Union of Paper Workers; Mr. G. E. Lacey, National Union of Paper Workers; Mr. T. Foster, National Union of Journalists; Mr. G. C. Jones, representative of the Women Workers; Mr. D. Pointing, News Department, London Society of Compositors; Mr. J. Hobday, National Society of Operative Printers and Assistants; Mr. Alfred Bispham, National Society of Operative Printers and Assistants.

AMERICA'S EXPORTS OF PAPERS.

In view of the paper shortage in the United States, it is interesting to note that during the nine months ended March 31, last, nearly 43,008 tons of newsprint were exported from America, about 1,735 tons coming to this country and 6,121 tons going to France. The figures for March approximate to the following: Total exports of newsprint, 3,200 tons; to the United Kingdom, 1,831 lbs.; to France, 100 lbs. For the nine months referred to the total exports of all other kinds of paper amounted to over 30,057 tons, the United Kingdom receiving over 1,116 tons. For the month ending March 31, the total exports were 4,730 tons, the United Kingdom receiving 165 tons. It may be noted that by far the largest customer of the United States for "news" and all other kinds of paper is Argentina.

OUR "STUFF-CHEST."

By "THE AGITATOR."

PAPER clothing for fine weather wear has been adopted in New York, says the *Daily Mail*, which gave a picture of a man trying on a suit.

At the annual festival of the Mark Grand Lodge of Freemasons held recently, Major Frank H. Bowater had the past rank of S.D. conferred upon him.

THE late Mr. Norris Bradbury, chairman of the Darwen Paper Mill Co., Ltd., left estate of the gross value of £190,347, the net personally being £145,358.

MESSRS. ANDREWS AND CO., LTD., wood pulp agents, of Blackfriars House, New Bridge Street, E.C., have appointed Mr. R. A. Broughton to succeed the late Mr. S. I. Ryder at their Manchester offices.

At the Great Harwood Agricultural Show, Messrs. A. M. Peables & Co., Ltd., paper manufacturers, of Rishton and Whiteash Paper Mills, received a fourth prize in the class for cleanest decorated mare or gelding.

MR. RICHARD GREENHALGH, brother of Mr. Chas. Greenhalgh (Greenhalgh & Co., Manchester and London) has become a partner in the firm of Messrs. Halliday & Co., Chorlton-on-Medlock, Manchester, who specialise in colours, glues, etc.

At a recent meeting of the Stationers' Court, Mr. Harold F. W. Bailey was admitted to the Freedom by servitude. Lieut.-Col. John Murray, D.S.O., M.A., and Mr. E. A. Watts have been elected the Renter Wardens for the ensuing year.

THE Darwen Paper Mill Co., Ltd., have undertaken to level up India Street and to withdraw traffic from this thoroughfare so as to render it unnecessary at present for the Corporation to carry out a contemplated scheme of improvements.

THE firm of George Harrison, paper agent and merchant, have removed from 33-35, Eastcheap, E.C., to more spacious offices at 32, Queen Victoria Street, E.C.4. We understand that Mr. H. B. Beever is now representing the above firm.

THE official list of British delegates to the meetings to inaugurate an International Chamber of Commerce which took place in Paris from June 22 to July 1 included the name of Mr. C. T. Craig, of Messrs. Hender's or Craig and Co., Ltd., wood pulp agents, London.

It is stated that while on his visit to Canada, Mr. G. R. Hall Caine was made a trustee of the American Paper and Pulp Co., and a director of the Saguenay Pulp and Power Co., The Chicoutimi Pulp Co., Ltd., the St. Lawrence Pulp and Lumber Co., and seven other subsidiary concerns.

On the invitation of the Executive Committee of the Paper Makers' Association, Mr. Lewis Evans, J.P., D.L., ex president, has consented to accept nomination as an honorary member of the Association. This, we believe, is only the second time such an honour has been offered, the first being in the case of the late Sir John Evans, the father of Mr. Lewis Evans.

In its issue of the 5th ult. the *Freeman's Journal* published three views, depicting a constant stream of lorries carrying paper for the *Freeman's Journal*. Below the illustrations it was stated: "Each one contains four miles

of paper and the quantity of paper carried this week, in order to assure supplies for our steadily increasing circulation, runs into many thousands of miles."

In celebration of his 50th birthday, Mr. Edgar L. Waterlow, the managing director of Waterlow & Sons, Ltd., has been presented by the staff, as a mark of esteem and regard, with a silver centrepiece and other silver table ornaments. Mr. George Robins, the oldest member of the staff, acted as the spokesman of the subscribers at the formal presentation.

MR. CHARLES WILLIAM COWAN, of Loganhouse, Moreton-hall House, Liberton, Midlothian, formerly of Dalhousie Castle, for many years head of the papermaking firm of Alexander Cowan & Sons, Ltd., a former Provost of Penicuik, has left personal estate in England and Scotland of the value of £157,550, of which over £58,000 represents his holding in Alexander Cowan & Sons, Ltd.

DAMAGE to the extent of upwards of £1,800 was done through the burning of about 200 bales of wood pulp (about 50 tons) from a stack of 900 bales at the Donside Paper Mills, Aberdeen, on the 11th ult. The fire was attributed to a spark from a steam crane falling on a stack of wood pulp, but the outbreak was subdued before reaching other stacks of about 10,000 bales of wood pulp.

AMONG those present at the annual dinner of the National Union of Manufacturers at the Savoy Hotel on the 14th ult. were Sir John Irwin (Newbrook Paper Mills, Dublin), Mr. J. Fraser Geddes (Ulster Paper Mills, Ltd.), Mr. A. L. Sharpe (Messrs. Backhouse and Coppock), Capt. Mullins (Chas. Venable & Co.), Mr. A. W. Foster (Paper Makers' Association), and Mr. Percy Barringer (President of the Stationers' Association).

WE are informed that Mr. Marshall, the new manager of the pulp and chemical department of Messrs. Relph, Darwen & Pearce, of London, has now returned from his business journey to Scandinavia. As the result of an agreement arrived at with a prominent Swedish firm controlling several pulp mills, Messrs. Relph, Darwen and Pearce will in future be in a favourable position to supply various brands of pulp.

MR. LANCELOT DYKES SPICER is engaged to Miss Iris Cox, daughter of the late Wm. Pollett Cox, of Rutland Gate. The bridegroom-to-be is the youngest son of Sir Albert Spicer, Bart., chairman of Messrs. James Spicer and Sons, Ltd., with which Mr. Lancelot Spicer is also associated. He is a captain in the King's Own Yorkshire Light Infantry, and served all through the war. He has the D.S.O. and the Military Cross to show for it.

WE have received from Messrs. George Mawson & Co., Ltd., 71, Fleet Street, E.C.4, a copy of their newly revised comparative prices for paper. The prices range from 1d. to 7d. per lb., and higher prices up to 1s. 2d. per lb. can be calculated by simply doubling the tables. Further, the prices are also shown less discount, running from 1 per cent. to 10 per cent., and the prices will be found very useful to all engaged in the paper trade.

ACCORDING to the *Labour Gazette*, employment in the paper trade during May continued good in most districts, but several employers again reported a shortage of fuel. The returns furnished by employers showed that during the week ended May 23 last the number of workpeople was 14,694, being 1.3 per cent. in excess of a month previously, and 30.0 per cent. a year ago. The total wages paid amounted to £45,334, increases of 6.4 per cent. and 70.7 per cent. respectively.

SKIN
GELATINES
AND
GLUES.

PURE SKIN GELATINES AND SKIN GLUES, FOR PAPER
COATING AND SIZING.

HIGHEST GRADES.

OURY, MILLAR & Co.,
9, Mincing Lane,
LONDON, E.C.3.

Telephone—4978 Avenue.

Telegrams—"Olmenth-Fen, London."

THE
Forth & Clyde Coal Co., Ltd.,

Coal Contractors to H.M. Government,
Colliery Agents and Exporters, * *

21, HOPE STREET, GLASGOW.

Telegrams:
"Twentyone, Glasgow."

Telephones:
5551 Central (3 lines).

EVERY DESCRIPTION OF STEAM COAL AND
SMALLS FOR PAPER MILLS IN CARGOES OR
BY RAIL. HOME & FOREIGN MILLS SUPPLIED

RECENTLY there took place an enquiry into the death of an eighteen-year old mill girl who died in hospital subsequent to the amputation of her arm due to injuries sustained while feeding a rag-cutting machine in a certain Scottish paper mill. The jury added a rider to their verdict to the effect that the accident was due to the cutter being fed by an unsafe method; that a safe and proper method was available but not used; and that a safe and proper method should be followed in the future.

MR. JOHN MURRAY, of Albemarle Street, W., has drawn our attention to the fact that in the Annual Number of "THE PAPER MAKER" for 1920 we inserted an article on "Papermaking in Australia" without due acknowledgment of its source, i.e., *The Bulletin of the Imperial Institute*, Vol. XVII, No. 2 (April-June, 1919), of which he is the publisher. We readily admit the error, which was entirely due to inadvertence, and accordingly express sincere regret that our usual practice was not on this occasion followed.

At Withnell, recently, a large crowd assembled to witness a cricket match between the Withnell Fold Paper Works and Hunslet Paper Mill (Leeds) teams. Before the game the players had lunch at the Withnell Mills dining rooms and afterwards viewed the residence of Mr. F. L. Parke. The Leeds team scored 35 and Withnell responded with 117 for five, E. Brindle contributing 61 not out. In a second innings Hunslet were dismissed for 36. Following the game there was a baby show, Mrs. Baxenden carrying off the first prize with twins.

H.M. STATIONERY OFFICE placed contracts during May for the supply of paper of various descriptions with the following: Cooke and Nuttall, Ltd., Horwich, Lancs.; A. Cowan and Sons, Ltd., Penrith, Midlothian; R. Craig and Sons, Ltd., Caldercraix Mills, nr. Airdrie; Olive Bros., Ltd., Bury; Ransbottom Paper Mill Co., Ltd., nr. Manchester; Reed and Smith, Cullompton, Devon; Crown Agents for the Colonies; R. Craig and Sons, Airdrie; C. Baker and Co., London, E.C.; R. Herring and Co., London, E.C.; T. H. Samuels and Co., London, E.C.

The annual outing of the beatermen and machinemen and their assistants connected with Turn Lee Paper Mills, Glossop, took place on the 12th ult. The party, which included several members of the staff, were conveyed to Liverpool and Chester by motor char-a-banc. Dinner was served at the Bee Hotel, Liverpool, and after crossing by ferry to Birkenhead, the party proceeded to Chester. On arrival they partook of a substantial tea at Barr's Hotel, and after a stroll round the city, returned home by way of Altrincham and Stockport after a very pleasant and successful day.

ACCORDING to the *Daily Mail*, there has been in London a large consignment of men's ready-made suits that cost only a few shillings each. They are made of paper and have come here from Germany for re-export to Africa and other countries which seem to be taking from Germany considerable quantities of this kind of men's wear. These paper "tweeds" and "crossbreds" resemble heavy rough cloth, both in appearance and feel; in fact, there is nothing "papery." A number of overalls, made of blue paper have been retailed at 10s. 6d. each. German-made paper braces are being sold at 6d. a pair, and paper bootlaces from the same source at three pence.

A CONTRIBUTOR to the *Westminster Gazette* states that he has received a letter calling his attention to the fact "that on July 17, 1854, the second edition of the 'Times' was printed on paper made from the straw of flax after it had first been used for the production of oil. That is to say, the paper was made from what had pre-

viously been regarded as refuse. This was in days when it was assumed that paper could only be made from rags. There was then an extensive scheme for the supply of flax-pulp to paper-makers, and many of the paper-makers had agreed to take large quantities of it; but this was before the days of limited liability and the law of partnership stood in the way of what must necessarily have been a vast enterprise."

At the twentieth annual meeting of the Federation of Master Printers and Allied Trades of Great Britain and Ireland, held at Cardiff on the 8th ult., Mr. E. W. Humphries, Bradford, was elected president. The Council reported that the frequent demands for increased wages had been a disturbing factor. The Council required that wage negotiations should be on a national basis, and it seemed probable that this would be realised. The request of the Printing and Kindred Trades Federation for a reduction of hours from 48 to 44 per week caused grave concern, and any alteration had been unanimously refused. The Association of Wholesale Stationers and Paper Merchants had agreed to standardise the ream to 500 sheets. Harrogate was chosen for the next conference.

The directors of the Hele Paper Co. recently entertained the employees and their wives to supper, when Mr. J. P. Hepburn gave details of the recent amalgamation of the undertaking with Wiggins, Teape & Co., and welcomed home the men who had served in the war. Thirteen have made the supreme sacrifice, and it is proposed to place in the mill a tablet recording their names. Mr. Hepburn remarked that despite the natural feeling of regret at the loss of identity of the company, he was confident that the change which had taken place would prove beneficial, and appealed to the employees who had money coming to them under the profit-sharing scheme, which has been in operation since 1888, to invest it. The company were prepared to give under certain conditions 10 per cent. of the cost of investment in certain approved securities.

A FIRE was recently discovered in the rag warehouse at Bridge Hall Paper Mill, Bury, belonging to Messrs. James Wrigley & Sons, Ltd. The warehouse is over the boiler-house, joiners' shop, and mechanics' shop, and was well-stocked with rags. By the fire brigade's efforts the fire was prevented from spreading to the shops below, but some damage was done in them by portions of the floor of the warehouse falling on them. One of the firemen, who was in the mechanics' shop, "playing" on the ceiling, was caught on the arm and leg by some falling debris. The motor ambulance was sent for him, but it was found he was not badly hurt, and was able to walk. The fire destroyed the rag-sorting room and part of the rag storing accommodation. How the fire originated is not known, and the damage done was considerable, but not sufficiently so as to materially affect the subsequent output of the firm.

THE late Mr. Augustin Spicer, J.P., of Franklyn, Haywards Heath, chairman of Messrs. Spicer Brothers, Limited, paper manufacturers and stationers, New Bridge Street, E.C., who died on April 21, left estate of the value of £83,303, with net personalty £80,700. The testator gives £250 each to his grandchildren, Giles and Diana Witherington; £8,000 each and property at Woburn, Bucks, and elsewhere to his daughters, Alice J. G. Witherington and Mary J. A. Spicer; £250 each to his brother James and his sister Elizabeth; £250 to Frederick A. Somerville; £100 each to his executors; £200 to the Haywards Heath Cottage Hospital; £200 to Harriet Fudge; £100 to his gardener, Henry Humphries; 25 Ordinary shares in Spicer Brothers each to Ambrose Clarke and John T. Steele; and the residue of the property in trust for Mrs. Spicer during widowhood, and then for his daughters.

THE office and departmental staff of Messrs. Robert Fletcher & Son, Ltd., of Kearsley Paper Works, arranged a very successful and enjoyable outing on the 19th ult., Southport being visited. Starting from Manchester in glorious weather by motor char-a-banc, a call was made at the mills at Stoneclough to pick up the remainder of the party, after which a start was made for Southport, which was reached in due course, after a most interesting run through charming country which looked at its best. Full advantage was taken of the "sights," including the ever-popular fairground, descents on the famous water-shute, rides on the "figure 8," visits to the "house of nonsense," rowing on the lakes, which formed part of the programme of the younger element of the staffs. Later a very appetising tea was partaken, and the rest of the time was spent in visiting the various remaining sights, taking snapshots, etc., all voting the day's programme a huge success.

DURING the week ending June 12, 31 members of the National Union of Paper Workers employed by Messrs. W. and R. Balston, Ltd., Springfield Mills, Maidstone, came out on strike in connection with a wages dispute. Negotiations with the firm, it was stated, had been proceeding since April 20, but Messrs. Balston, not having considered the men's claims, the Executive of the Workers' Union allowed the members concerned to withdraw their labour. This was done, the disaffected employees including size boilers, rag boilers, bricklayer's mates, felt washers, rag dusters, stockers, rollermen and acid men. The existing rates of pay on the average it is stated were 52s. a week for 56½-hour week, and the workers desired that the terms of the provisional agreement between the Employers' Federation of Paper Makers and the Printing and Kindred Trades Federation of March, 1918, should be put

into operation. A representative of the firm said that the average wages earned by the men concerned was £3 for 56½ hours, and in addition the men earned overtime and other extras. He complained that no notice was given of the intention to strike and that no complaints had ever been received by the firm from the men themselves. Eventually the men returned to work and the question in dispute became the subject of negotiation.

BITTON PARISH CHURCH, near Bristol, was the scene of an interesting wedding on the 14th ult., Miss Anriol King Smith, the only daughter of Mr. C. King Smith, proprietor of the Golden Valley Paper Mills, being married to Mr. Robert Kinge, son of the late Mr. J. Kinge, of Chile. The bride, who was given away by her father, wore as an ornament a pendant of aquamarine and pearls, set in platinum, the gift of the bridegroom. Miss May King Smith and Miss Frances Perry (cousins of the bride), Miss Grace Boucher (Dinas Powis) and Miss Violet Graham (niece of the bridegroom), were the bridesmaids. Master Robert Graham (nephew of the bridegroom) acting as trainbearer, and the brother of the bride (Captain Ronald King Smith, D.S.O.) as best man. Subsequently a reception was held at Bitton Hall, the home of the bride's parents. Among the presents were gifts from the staff and employees of Golden Valley Paper Mills. The honeymoon is being spent in North Devon. The mill was closed on Friday and Saturday and full wages were paid. Most of the employees took the opportunity of attending the wedding, the church being full. On the Saturday all the employees were given a trip to Weston-super-Mare, where luncheon and tea were provided for them at Brown's Cafe, 250 sitting down as guests. Mr. and Mrs. C. King Smith, Captain R. K. Smith, Mr. Philip C. K. Smith, Mr. Allen C. K. Smith and Master C. K. Smith all attended the hunch.

FOR

QUALITY AND QUANTITY

COMMUNICATE WITH THE

ORIGINAL RELIABLE FIRM

COOKSON BROTHERS,

STOCKPORT, ENGLAND.

Telegraphic and Cable Address:

"BAGGING, STOCKPORT."

Codes—A H C 5TH EDITION, LIEBER'S, WESTERN UNION, WASTE TRADE, PRIVATE.

Telephone:

No. 609 Stockport (3 lines)

Every description of Linen Rags, Cotton Rags, Woollen Rags, Ropes, Bagging, Burnt Tares, Hessian Twines, Canvas, Tarpaulin, Wood Pulp, Engine Waste, Sponge Cloths, Cotton, Cotton Waste, New Papers, Waste Papers, etc., etc.

NORTHERN NOTES.

MANCHESTER BRANCH OFFICES,

448-450, Produce Exchange,

June 19, 1920.

The wood-pulp market is now, at the time of writing, stationary, and it would really appear that, owing to the fact that buyers are holding off, it is having some little effect on the market, but of course, it can only be for a short period.

I am told that bleached sulphite has been sold at over £85 per ton, and I should imagine this to be rather a record since pulp was first introduced as a raw material for paper-making.

Easy-bleaching sulphite is firm at the top price of 1,200 kr. for Norwegian, and 1,050 kr. for Swedish, but after making many enquiries, I cannot discover that much business is taking place at these quotations.

Mechanical pulp would seem to constitute a kind of puzzle, whilst a higher price even than the present is expected for supplies wanted towards the autumn, yet very little business seems to be doing here at to-day's quotation of £10 f.o.b.

Freights seem to be easing off, and readers of this journal will no doubt remember that I have repeatedly advised them that this would be the case, after careful consultation with those who are usually "in the know."

With regard to paper supplies, there is still a big demand for all grades, and a drop in price cannot be expected for, at any rate, months to come.

The *Manchester Guardian* on the 15th ult. issued a special number or supplement, that must have proved very interesting reading to the pulp and paper trades.

Comments upon the articles contained therein, and the quantity of paper used in the issue, and all for twopence, have been numerous and varied in character. Many people have been asking how the publication could possibly be issued without a monetary loss, seeing that the price of "news" is from sevenpence to eightpence per lb.

The newly-appointed superintendent of Preston Docks evidently knows his business in more ways than one. I hear he is inviting a number of representatives interested in the pulp trade to Preston, where they will proceed in a special tug down the river Ribble en route for Southport and back.

I am also given to understand that Mr. Hopperton has drawn up quite an extensive scheme, including the erection of new sheds and warehouses, which are now in course of erection for the accommodation of pulp discharged at this port.

Undoubtedly this shows great enterprise on the part of the new superintendent at Preston docks. I am informed that all the members of the Lancashire pulp trade expect to take advantage of this trip, and I believe it to be a fact that more pulp has gone into stock in Preston during the last month than in any other month since 1914.

It is always a pleasure to record developments and improvements during my calls upon the various firms, month by month.

I have previously reported the developments that are going on and are in contemplation at the various paper mills, chemical works, etc., in order the better to cope with ever-increasing trade connections.

The Clayton Aniline Co. have greatly enlarged their works here in the North, so that they are better prepared now to deal with enquiries and demands from the paper mills, in regard to colours, etc.

Messrs. Feller, Jucker & Co., Ltd., have almost completed important structural alterations at their palatial offices in Peter Street, in this city. Each department—the paper, pulp, steamship, timber, hardware, cotton and yarn, machinery, South American, counting-house, etc.—has its own district suites amply provided for, while the governing directors' offices, I think, constitute the "last word" as regards effectiveness, comfort, taste and effect. Mr. Jucker, of course, is also the Italian Consul for Manchester, while Mr. Fischer is equally well-known as the Vice-Consul for Sweden, both gentlemen enjoying the high esteem and confidence of the whole trading community of Manchester and district. I understand that Messrs. Feller, Jucker and Co. are making arrangements, should there be sufficient freightage offered for Finnish ports, for a regular line of steamers to be put on for the ever-growing traffic between Finland and this country.

Much sympathy has been tendered to Mr. J. Bearn, of the firm of Messrs. Peter Spence & Sons, of Manchester, who has just recently returned from an American business tour, in the death of his wife, whose unexpected illness and demise took place during his absence, and before he could reach home.

With regard to the proposed trip down the Ribble from Preston docks, arranged by the Docks Superintendent, Mr. Hopperton, I have, since writing the previous paragraph, been informed that an invitation has been extended to quite a number of paper makers in the North, who have accepted, and therefore will join the party.

The Wood Pulp Association dinner on the 16th ult. proved to be an unqualified success, and in fact appears to have beaten all former records, which is saying a great deal.

All kinds of lunny stories are going the rounds. From all accounts, the Lancashire contingent, or at any rate a certain section of them, played "high jinks" at some of the hotels. One gentleman found his room altogether topsy-turvy, and whether he managed to secure a restful time is not stated.

Another party in the "wee small hours" proceeded to make calls upon their friends in a neighbouring hostelry attired in quite unconventional attire.

Everybody seems to have had a right good time down south, while the highest praise has been expressed for the arrangements made for the comfort of all the visitors—in a word the reunion was an unqualified success. This is the verdict, at any rate, of the Lancashire visitors.

Mr. Nicol has returned from his Scandinavian business trip, and as far as I can gather here in the North, his view

of the present position is that a steady market at present prices must be looked for for some time to come, especially in regard to mechanical pulp.

* * *

The opinion is rather freely expressed here that if gentlemen in the position of Mr. Nicol would give their views officially on their return from these business tours to the Press, undoubtedly their various customers would benefit considerably by reading them. But the query is put: Do they know too much to desire publicity?

* * *

I hear that Mr. L. Rustad, of Messrs. Johnsen, Jorgensen and Wettre, has left England for Scandinavia on a business trip. This gentleman's views, on his return, would no doubt be of great interest to the trade, especially to his Northern friends. Owing to the various conflicting rumours reaching here from travellers returning from abroad, many people are simply in a quandary to know what to accept, or reject as "piffle."

* * *

For instance, it is stated that the quays and warehouses on the other side are packed with huge stocks of pulp, and, of course, quite a number assume that these stocks are for sale and only want getting across, whereas the main fact is that the pulp in question is already sold, and simply awaiting shipment for the completion of contracts.

* * *

This goes to show the importance of securing correct information, so that these idle rumours of there being plenty of pulp for sale, and therefore that there should soon be a rapid drop in prices, could be immediately discredited.

* * *

As I now write (22nd) I have been informed that bleached sulphite has been sold to Italy at nearly £100 per ton.

The news that there had been a serious outbreak of fire at Wifsta Wharf caused no little alarm here in the North, but it was afterwards found that the outbreak was confined to the timber stocks. Rumour had gone so far as to state that the mills were totally burnt out; hence the relief of customers when the correct news reached them.

* * *

There is a rumour going the rounds here that the French Government intend to prohibit the importation of "news" and cellulose for the making of "news" printing. If this proves correct, it will undoubtedly have great influence on the market. In the opinion of many here, it looks like an attempt to stabilise the exchange, and may not really materialise.

MANCUNIAN.

— * —

THE annual outing of the staff in the engineer's department of Sittingbourne Paper Mills took place recently, Brighton being visited. Boarding motor chairs-a-bancs and saloon cars, the party of ninety-four (accompanied by the Chief Engineer, Mr. A. A. Richards) were on the move at 8.5 a.m., and had a splendid run through what has so often been described as "beautiful scenery." Certainly the country appeared to be looking at its best, more especially through the Tunbridge Wells district. The one point upon which the party were unanimous was that, including Maidstone and other towns through which they passed, the "powers that be" were evidently making great efforts to cope with the housing problem. The party arrived at Brighton at 1.15, where they separated, to meet again at five o'clock. Leaving Brighton at 5.15, the party returned via Hawkhurst, Cranbrook, and Maidstone, arriving at Sittingbourne at 11 p.m. After singing "Auld Lang Syne," the excursionists wended their way home, after what was unanimously declared to have been, despite the rain, a most enjoyable day.

TELEPHONE: 6820 CITY.

TELEGRAMS: "PAPER, MANCHESTER"



LEEDS: BANK MILLS, EAST ST

DERBY: MORLEDGE WORKS.

Pollard St. East, MANCHESTER.

WASTE PAPERS, BAGGING & ROPES.

OUR STRONG POINTS.

PROMPT ATTENTION.

::

RELIABLE GRADING.

CARE AND CLEANLINESS IN SORTING.

PRINTERS AND "THE PAPER SITUATION."

ADDRESS BY THE SECRETARY OF THE PAPER MAKERS' ASSOCIATION.

At the annual general meeting of the West and North West London Master Printers Association recently, Mr. A. W. Foster, secretary of the Paper Makers Association of Great Britain and Ireland, addressed a large gathering of master printers on the subject of "The Paper Situation." In the course of his introductory remarks, Mr. Foster expressed his pleasure in being asked to speak on the difficulties of the paper maker to the master printers, upon whom to a very large extent the paper-making industry depended. In speaking of the ignorance of the difficulties of the paper-maker both on the part of those who sold him his raw material and those who bought his finished product, Mr. Foster mentioned that he had never seen so impressive an effect of gradual revelation on peoples' minds as on the occasion of the investigations of the conditions of the paper-making industry by the sub-committee appointed by the President of the Board of Trade. That Committee was able to produce an absolutely unanimous report for the reason that, as the paper-maker's difficulties were revealed the attitude of the consuming interests had become more and more sympathetic. Before the war it was estimated that 20,000 tons of paper, excluding boards, were made in this country every week. About 30,000 tons, however, were used weekly and we had therefore to import one-third of our supplies. Mr. Foster incidentally remarked that roughly 4,500 tons consisted of brown wrappings, which the Government official did not regard as paper at all. A further 7,500 tons consisted of "news" and he expressed the opinion that in order to save the world from serious paper shortage the paper for the daily Press should be made from annual grasses in view of the wood-pulp shortage. Continuing, Mr. Foster said that the weekly output of British paper mills before the war included 1,500 tons of hand-made and tub-sized writings, etc., and the remainder consisted of about 3,300 tons of esparto paper and 4,500 tons of white printings. Although during the last 12 months paper-makers had not been able to produce so much paper as before the war owing to the fact of machinery being out of repair and much wastage being occasioned by the change from the two-shift to the three-shift system, he thought that to-day the normal output was being approached. Other countries, however, were not sending us 10,000 tons of paper per week, and this led him to speak of the difficult position in Scandinavia, Canada and the United States. Mr. Foster also referred to the difference between the prices for wood pulp now ruling in Scandinavia as compared with those paid in 1913 and said the merchant was now allowed no credit and had to pay cash against shipping documents. As indicating further the financial position of the paper manufacturer, Mr. Foster said that from the records of a number of firms it appeared that the financing of a paper business to-day demanded the locking-up of rather more than three times the amount of money necessary in similar cases in 1913. He also related how the labour situation had affected the industry.

Mr. Foster then went on to remark that we had just over 500 paper machines in this country, but between 60 and 80 additional machines were now on order, and it was hoped would begin operation within 18 months. That, he said, would ease the situation, but so long as present wood pulp conditions prevailed, he saw little hope of decreasing prices.

Mr. Foster, who thought he had as much experience as most people of the inner working of the mind of the

British paper-maker, emphasised his view that the paper-maker was not out to bleed his customers. He had, of course, to secure a working profit, but in all instances in which prices had been enquired into, and of which he had any knowledge, they had been found to have been approved by any reasonable business man who investigated the position. In saying that, however, Mr. Foster said that he did not hold any brief for every agent, merchant or middleman coming between makers and ultimate customers. That prices had been unduly enhanced there was no doubt, and he instanced a case of one parcel of paper which during the control period changed hands five times between maker and consumer, the price of the mill being £750, while the eventual buyer paid £1,750. He suggested that the distribution of paper should be so organised that the illegitimate middleman could be eliminated.

In conclusion, Mr. Foster expressed the hope that in the reconstruction period, paper-makers, wholesale stationers, printers and other paper buyers might be banded together to make their industry a model of organisation working for the benefit of every unit in it, adding that a few conferences between the paper-maker and his best friend, the printer, might result in something being done with that end in view.

A brief discussion subsequently took place during which Mr. Foster, in reply to a question referring to his suggestion that paper for the daily Press should be made from annual grasses, alluded to the labour difficulties which hindered the use of such grasses and said that personally he rather looked to bamboo to supplement existing supplies of raw material.

A very hearty vote of thanks was accorded to Mr. Foster for his address.

THE PAPER SHORTAGE.

WAR AND PAPER SUPPLY.

Dependence on imported supplies of paper for book-printing during peace, and consequent shortage in war-time, appears to be no latter-day problem to face and fight (says Mr. J. P. de Castro in a recent issue of *Notes and Queries*): "Dr. Edmund Gibson, afterwards Archbishop of Canterbury, writing from Lambeth to Ralph Thoresby, historian of Leeds, on June 14, 1709, remarks: 'While the treaty of peace was depending I could not tell what to say to the contents of your last letter; because of late very little paper has been imported upon a prospect of peace; and all printing, except of pamphlets, is at a stand for the present. The thoughts of peace being now over, the question is whether you think fit to put your work to press under the present inconvenience of scarcity and dearthness of paper, or will wait till it pleases God to open way to peace, and with a trade to France. . . . As to the charge, when I know the number of sheets and plates, I can get it exactly calculated for you; but at present the printer need not be put to that trouble, if you resolve to wait for paper from France which will very much lower the charge, and be an encouragement to undertake it at your own expense.' The coarser-fibred paper suitable for pamphlet-printing, like the looser-textured paper used in modern newspaper-printing, appears to have been a less restricted market."

MESSRS. SAMUEL JONES & CO., LTD., through the kindness of Messrs. Thomas & Green, Ltd., are arranging for parties of their workpeople to visit the paper mill at Wooburn, Bucks. The first party under this arrangement recently visited Wooburn and found the mills nicely situated by a stream in a pleasant green valley. An acceptable lunch was provided.

OPENINGS FOR THE BRITISH PAPER TRADE.

A COMMISSION AGENT and manufacturer's representative at Bridgetown is desirous of acting as agent for United Kingdom manufacturers for wrapping papers and paper bags. (Reference No. 677.)

AN American paper manufacturing company wish to purchase waste paper put up in large machine-compressed bales free from all foreign substance and suitable for the manufacture of cartons, cardboard boxes, etc. (Reference No. 946.)

The British Consulate-General at Buenos Aires writes to the effect that a firm of wholesale importers in that city, are desirous of being placed in touch with United Kingdom manufacturers of the following articles:—Newsprint, in bobbins and reams; printing papers for reviews, pamphlets, etc.; printing papers, for illustrations, magazines, etc.; writing papers; linen faced papers; account book papers; papers for dairy produce (greaseproof, etc.), cover papers; cardboard (white and coloured); Bristol boards (white and coloured); etc. The firm are understood to have been established for 25 years, and to be of good financial standing. It is suggested that United Kingdom firms who are interested in this enquiry should communicate direct with the firm referred to, whose name and address may be obtained on application to the Department of Overseas Trade (Development and Intelligence), 35, Old Queen Street, S.W.1.

A communication has been received in the Department of Overseas Trade from H.M. Trade Commissioner at Cape Town (Major G. Fethersham, D.S.O., M.C.), to the effect that a local firm of booksellers and line art dealers are desirous of securing the agency for a British paper mill making printing (flat) and cream-laid writing paper. H.M. Trade Commissioner states that the firm in question are well-known throughout South Africa, have an organisation covering the union and are able to finance any business, and he has formed a high opinion of them. Until lately the applicants were Government contractors for paper and H. M. Trade Commissioner is of opinion that if they secured the representation of a British paper mill there is every possibility of their again obtaining Government contracts, as they have full knowledge of their requirements. The name and address of the firm referred to may be obtained by interested United Kingdom manufacturers on application to the Department (Development and Intelligence), 35, Old Queen Street, S.W.1.

[Unless otherwise stated, inquiries relating to the foregoing should be made personally, or by letter, to the Department of Overseas Trade (Development and Intelligence), 73, Basinghall Street, E.C.2.]

ART printing, chromo cardboard and chromo paper are admitted into Austria free under a Decree (dated May 18, in force from May 28). Previously duties of 15 krs. and 27 krs. per 100 kgs. were in force. On rags (linen, cotton, silk, and woollen), the export duty is reduced from 9.60 to 2 krs. per 100 kgs. The following goods which were admitted free of import duty under the provisions of a Decree of August last are now again subject to import duty at the ordinary rates:—Copper sulphate, "war glue," paper size, and similar aluminous materials, or similar adhesive and binding materials, animal glue, resin substitutes made with the addition of dextrine starch, mineral substances, etc., for sizing paper for paper factories.

NEW COMPANY REGISTRATIONS.

THE STAR PAPER MILL COMPANY (1920), LIMITED, was registered on May 29, with a capital of £625,000, in £1 shares, to take over the Star Paper Mills, Feniscowles, near Blackburn, together with the undertaking of the Star Paper Mill Company, Limited, and to carry on the business of manufacturers of and dealers in paper and similar substances, wood pulp and other fibrous products, etc. The first directors are: W. R. Challinor, Gorsefield, Ansdell, Lytham; J. Ely Jepson, Simmside, Pleasington, near Blackburn; J. Elliott Jepson, Sarr House, Feniscowles, Blackburn; J. S. Rixon, Ringley Dene, Poulton-le-Fylde; A. Young, 18, Monument Road, Wigan; A. E. Baucher, 51, King Street, Wigan. Minimum cash subscription, £100,000. Registered office: Star Paper Mill, Feniscowles, near Blackburn.

ANOTHER interesting registration is that of the Newnes and Pearson Printing Co., Ltd., with a capital of £200,000, in £1 shares, to take over the assets and liabilities of the London Colour Printing Company, Limited (incorporated in 1891), to acquire from George Newnes, Limited, and C. Arthur Pearson, Limited, the plant and machinery referred to therein and to carry on the business of printers, lithographers, electrotypers, newspaper proprietors, etc. The first directors are: Sir Frank Newnes, Bart., 1, The Boltons, S.W. (chairman, George Newnes, Limited); Sir Arthur Pearson, Bart., G.B.E., 15, Devonshire Street, W. (chairman, C. Arthur Pearson, Limited); Rt. Hon. Lord Riddell, 20, Queen Anne's Gate, S.W. (vice-chairman, George Newnes, Limited, and C. Arthur Pearson, Limited); J. M. Bathgate, The Moyn, Wimbledon (director, C. Arthur Pearson, Limited); W. Grierson, Brinkburn, Haslemere Road, Crouch End, N. (director, George Newnes, Limited); N. A. Pearson, 15, Devonshire Street, W. (director, C. Arthur Pearson, Limited); Sir Frank Newnes, Bart., Rt. Hon. Lord Riddell and W. Grierson are deemed to be nominated by holders of shares Nos. 1-75,000, and Sir Arthur Pearson, Bart., G.B.E., J. M. Bathgate and N. A. Pearson are deemed to be nominated by holders of shares Nos. 75,001-150,000. Registered office: 2, Exmoor Street, North Kensington, W.

THE PAPER TUBE MAKERS' ASSOCIATION, LIMITED (private company), was registered on June 2 with a capital of £200,000 in £1 shares. To take over the business of paper tube makers carried on by J. Stell & Sons, at Holme Mill, Keighley; J. Swailes and Sons, Limited, of Gladstone Street, Moorhley, Oldham; Lancashire Paper Tube Company, Limited, of Molesworth Street, Rochdale; and Sidney Clifford, of Pollard Street, Fartown, Huddersfield, and to carry on the business of manufacturers of paper, paper pulp, papier mache, paper tubes, paper bobbins, boxes, blocks, beams, perforated tubes, cross winding tubes, tubes for bleaching and cop dyeing, etc. The permanent directors are: S. Stell, Hercliffe, Keighley; J. R. Stell, Wingfield, Keighley; G. M. Swailes, 933, Huddersfield Road, Scouthead, Oldham; H. Swailes, 12, Grendon Avenue, Oldham; G. Kershaw, M.E.Mech.E., Broadley, Whitworth, Rochdale; A. Taylor, 108, Molesworth Street, Rochdale; L. Clifford, Beechfield Road, Birkby, Huddersfield; F. H. Clifford, St. Aubins, Blackhouse Road, Birtown, Huddersfield. Qualification, £200. Registered office: Oldham Cop Tube Works, Gholstone Street, Moorhley, Oldham.

The report of the Electric Bleach and By-Products Co., Ltd., for the year ended December 31, 1919, shows that profit, after deducting repairs, standing charges, depreciation, bonus to employees, directors' additional remuneration, and excess-profits duty, amounts to £34,637, to which must be added £394 brought forward from 1918, thus making a total of £35,031. After charging debenture interest and interim dividends of 3½ per cent. on preference paid on September 1, 1919, and of 6½ per cent. on ordinary paid on December 1, 1919, there is an available balance of £24,027. Of this sum £14,750 was required to pay further interim dividends (on account of 1919) of 3½ per cent. on preference, making 7 per cent. for year, and 7½ per cent. on ordinary, making 14 per cent. for year, leaving a sum of £9,277. Directors recommend that £5,000 be placed to reserve account, making a total of £24,234 in that account, and that £4,277 be carried forward.

INTERESTING GOLF MATCH.

MESSRS. JAMES SPICER AND SONS, LTD., v. REPRESENTATIVES OF THE PAPER TRADE.

On May 27, in ideal weather, a very interesting golf match was played on the Addington Course, near Shirley, between a team representative of Messrs. James Spicer and Sons, Upper Thames Street, and a team of paper men captained by Mr. L. Savory. We understand that Messrs. Spicer & Sons' team issued a challenge, and although we are not permitted to publish the scores, the Upper Thames Street team were the losers.

Lunch and tea were enjoyed at the Club House, and everyone participating expressed himself delighted with it, and it is to be hoped that more matches will follow.

Messrs. James Spicer & Sons' team was as follows:—Sir Howard Spicer, Messrs. Dykes Spicer, Douglas Spicer,

CUSTOM REGULATIONS AND TARIFF CHANGES.

PORTUGAL.

A Decree (No. 6,667) was published in the *Deario do Governo* (Lisbon) dated June 5, which modifies the provisions previously in force respecting the exportation of various goods from Portugal. The exportation of the commodities specified in a schedule to the Decree is only permitted under license and subject to payment of the surtaxes fixed. The surtaxes are, generally speaking, on a higher scale than those previously in force, and many goods which formerly did not pay any surtax on export are now subject to a surtax.

A reference in the Decree appertaining to the exportation of paper states that the new rate of surtax will be to p.c. (*ad valorem*).



Back Row (left to right): J. G. L. SMITH, A. BISSETT, COLONEL GARWOOD, T. H. SAVORY, E. H. RAYNHAM, H. HIGGINS, R. J. WATT, J. H. BRADLEY, L. C. LEWSEY, AND RONALD SPICER.
Middle Row (left to right): A. E. BROWN, DOUGLAS SPICER, GENERAL PITT, SIR HOWARD SPICER, J. M. OLDHAM, A. DYKES SPICER, L. SAVORY, J. LEONARD SPICER, AND S. B. DUNSTER.
Front Row (left to right): J. ROWLEY, LANCE SPICER, R. D. OLDHAM, J. JOHNSTON, W. SOMMERVILLE, W. HAY, AND C. E. HIGGINS.

Leonard Spicer, Lance Spicer, Ronald Spicer, W. Hay, A. E. Brown, C. E. Higgins, H. F. Higgins, R. J. Watt, A. Bissett, and J. H. Bradley.

The following represented the Paper Trade: General Pitt (Hollingworth & Co.), Colonel Garwood (Edward Lloyd, Ltd.), Mr. J. M. Oldham and Mr. R. D. Oldham, Jun. (Inveresk Paper Co., Ltd.), Mr. L. Savory (W. Somerville & Son, Ltd.), Mr. H. Savory, Mr. L. C. Lewsey (Olive and Partington, Ltd.), Mr. E. H. Raynham (Edward Lloyd, Ltd.), Mr. J. G. L. Smith (Basted Paper Mills Co., Ltd.), Mr. J. Rowley (North of Ireland Paper Mills Co., Ltd.), Fourstones Paper Mill Co., Ltd., Thomas Chalmers and Sons, Ltd., Westfield Paper Co., Ltd., Arthur Millbourne & Co., Ltd., and W. H. & A. Richardson, Ltd.), Mr. W. Somerville (Golden Valley Paper Mills, Olive Bros., Ltd., and Team Valley Paper Mills, Ltd.), Mr. S. B. Dunster (Ford Paper Works, Ltd.), and Mr. J. Johnston (W. Tod, Jun., & Co., Ltd., and J. Lovell & Sons).

Mr. W. LEONARD TOD, President of the Papermakers' Association has been obliged to seek a cure at Buxton. We wish him a speedy recovery.

BELGIUM.

It was announced in the *Moniteur Belge* for the 14th and 15th ult. that the Bill authorising *inter alia* the increase of the specific rates of Custom Duty, by means of "coefficients of increase" had now been enacted as a law (dated June 10). The present Decree became effective on the 21st ult., and will cease to be in force on June 15, 1921. We publish below the "coefficient of increase" which affects the paper industry.

Wall paper: Velveted, metallised, stamped, varnished, imitation leather; linocrust ..	3
Other .. .. .	.. .. .
Cardboard in sheets or pieces, weighing at least 300 grammes per sq. metre	1.5
Paper and cards for photography: parchment paper, flimsies (for copying), paper for "osmose"; paper decorated, silvered or metallised; cigarette paper in reams or rolls; crinkled paper, paper called silk paper; writing paper, cards and envelopes; paper books, note books, registers and other paper, and cardboard shaped or cut out for a particular purpose .. .. .	.. .. .
Other paper, except newsprint paper .. .. .	.. .. .

THE STATIONERS' SOCIAL SOCIETY.

GOLF MATCH FOR THE PRESIDENT'S SILVER CHALLENGE CUP.

The Sandridge Park golf links were on the 9th ult. the scene of an interesting event in the history of the Stationers' Social Society, the occasion being the first match for a silver challenge cup, presented by the president (Mr. Horsburgh). The cup is to be played for annually by golfing members of the Society, and it was this year fought for under most ideal and pleasant conditions.

The scores were not quite up to championship form, and it may safely be said that the majority of the players could be relied on to make better scores than those returned in the Cup rounds, but as a convivial gathering the arrangements left nothing to be desired, and Mr. Kennett, a director of the firm of Messrs. Spicer Brothers, was a popular victor.

After luncheon, Mr. Horsburgh, the President, in a graceful speech, handed the Cup to the victor and said that he felt that the gathering together of the members of the Stationers' Social Society tended to promote that kindly feeling which helps so much these strenuous times. He congratulated Mr. Kennett on being the first member of the Society to have his name engraved on the Cup. The President also announced, amid applause, that Mr. Lionel Savory had been kind enough to promise to present to the winner of the Cup annually a replica. A cordial vote of thanks was passed to Mr. Horsburgh and Mr. Savory for their kindness and generosity.

Amongst the numerous visitors was Mr. C. D'Oyley Mears, one of the oldest members of the Society. He had been laid up with illness for some time past. The scores were:—

SCORE.	H'CAP.
93 W. Whyte, Junr.	7
94 J. A. White	8
94 J. Dewsnap	10
— Lionel Savory	12
90 P. Kennett	9
— W. E. Green	—
— Smith	5
94 H. Savory	6
— J. S. M. Stuart	15
91 L. C. S. Lewsey	18
91 R. R. Thomson	15
100 J. W. S. Johnston	18
100 A. E. Brown	16
94 W. Goodall	3
— J. G. L. Smith	5

After lunch an optional sweepstake followed and this was divided between Mr. L. C. S. Lewsey (Olive and Partington) and Mr. R. R. Thomson, each of these members returning scores of 91.

It will be noted that Mr. Kennett's score was 90, which, with his handicap of 9, just secured him the coveted trophy.

COLTHROP BOARD AND PAPER MILLS, LTD.

PROJECTED DEVELOPMENTS.

At the second annual general meeting of Colthrop Board and Paper Mills, Ltd., on the 23rd ult., Mr. Shirley W. Cropper, the Chairman, reminded the shareholders that as the result of the first nine months' trading they were able to pay a dividend at the rate of 10 per cent. per annum, and it was now gratifying that at the end of a further 12 months' trading they should be able to recommend a dividend at the rate of 20 per cent. per annum. This was after making full provision for excess profits duty and income-tax and writing-off one-third of the preliminary expenses and carrying forward a substantial balance. A large portion of the subscribed capital was issued only a few months ago and the cash resulting therefrom had not yet been capable of producing profit, having been employed

in the purchase and setting up of new buildings and machinery which were not yet productive. It was hoped that that stage would be reached within the next six or seven months. He had no hesitation in stating his firm belief that the pecuniary results of it would fully realise their expectations. Indeed, the sale of the output of the mill, even when largely increased by the running of the new plant, was practically assured by the kindred concerns, Cropper & Co., Ltd., and Containers, Ltd. Mr. Cropper went

on to say that it was in the undoubted interest of the shareholders that the directors were proposing the additional issue of capital to the extent of £124,000. In concluding, he formally moved: "That the report of the directors and accounts submitted to this meeting be approved and adopted; that a reserve of £25,000 be formed for excess profits duty and income-tax; that a dividend at the rate of 20 per cent. per annum, less income tax, be paid on the issued shares of the company from the dates that the various calls on the shares were paid up; that the sum of £2,095 6s. be written-off preliminary expenses; and that the balance, £2,028 8s. 6d. be carried forward to next year's account."

Mr. F. W. J. Smith seconded the motion, which was carried unanimously.

An extraordinary general meeting of the Company was afterwards held for the purpose of submitting the following resolution:—"That the nominal capital of the company be increased to £500,000 by the creation of 200,000 further shares of £1 each."

The Chairman formally moved the resolution, which was seconded by Mr. F. W. J. Smith, and unanimously carried.

An amusing adventure befell Mr. Phillip P. Dodge, President of the International Paper Co., during a recent visit to Grand Rapids, Wis. Failing to find accommodation in any of the hotels he was conducted to the County Gaol, where he was housed for the night.



THE CLUB HOUSE, SANDRIDGE PARK.

THE FRENCH PAPER STOCK CO.

STAFF DINNER.

The name of Becker is synonymous with hospitality and good fare, and at the first of what it is intended shall be annual reunions of those associated with The French Paper Stock Co., Mr. and Mrs. Harry Becker worthily upheld the family tradition as host and hostess.

The gathering took place at the Cannon Street Hotel on the evening of June 11, and those present spent a delightful time. The tables were tastefully arranged, the floral decorations being greatly admired.

An excellent dinner was followed by brief and appropriate speeches and a good musical programme while the singing of the National Anthem and "Auld Lang Syne" concluded a function which will be remembered with pleasure by everyone present.

The French Paper Stock Co. made history and progress in the war, and when the armistice came and brought to many sudden changes in commercial requirements, Mr. Harry Becker and those associated with him extended into new fields of enterprise, and not only have numerous branches been opened in London and the provinces, but the ramifications of the company are now very wide and are being further extended. In new papers, special paper, straw boards, and paper bags, big business is now being done, and Mr. Harry Becker now controls a large and capable staff who share the optimism and enthusiasm of the controlling spirit. Mr. Harry Becker is justifiably proud of the fact that the male employees are mainly ex-Service men who went through the war with credit and several of whom suffered serious injury.

The guests were received by Mr. and Mrs. Harry Becker, and the company present included Mr. and Mrs. George Buchanan, Mr. and Mrs. Charles Carter, Mr. and Mrs. Arthur Carter, Mr. and Mrs. Braddy, Mr. and Mrs. J. L. Greaves, Mr. and Mrs. Percy Simmons, Mr. Fredk. Gillis, Mr. F. Moseley (Tamworth), Mr. H. Tayler, Mr. and Mrs. W. Chappell, Mr. A. Watson, Mr. and Mrs. Beaumont, Mr. and Mrs. De Lange, Mr. and Mrs. Humphries, Mr. and Mrs. Culpeck, Mr. and Mrs. F. Julier, Mr. George, Mr. Penn, Mr. A. Deuhani, Mr. Newman, Mr. English, Mr. and Mrs. Gardiner, Mr. and Mrs. Clay, Mr. and Mrs. Pendrey, Mr. Connor, Mr. Lawrence, Mr. Heard, Mr. Hawkins, Mr. P. Barry, Mr. F. Isaacs, Mr. Beams, Mr. Hudson, Mr. Davis, Mr. A. Davis, Mr. Hobbs, Mr. H. Sparrow, Mr. and Mrs. Rankin, Mr. and Mrs. Croome, Mr. B. Heale, Mr. H. Ball, Mr. and Mrs. Knight, Mr. Boursier, Mrs. Speechley, Mrs. Newman, Miss A. Lawrence, Mrs. H. Penn, Mrs. English, Mrs. Pendry, Miss D. Rowland, Mrs. Heard, Miss Figg, Miss E. Weller, Miss N. Titmus, Mrs. Beams, Mrs. Ball, Mrs. Heale, Mrs. Beaumont, Miss Turmaine, Miss Lloyd, etc.

The usual loyal toasts having been cordially honoured, Mr. Harry Becker, who presided, said it was his privilege and pleasure, on that their first gathering, to propose the toast of "The Staff." He was pleased to know that 90 per cent. of the men employed were discharged soldiers or sailors. It was sometimes suggested that discharged soldiers were lazy and indifferent; he would say that it was a wonder they carried on so well as they did, in view of what they had gone through during the war. The French Paper Stock Co. had succeeded in enlisting in their ranks men with their hearts in their work. The company had developed an extensive paper merchants' business with a large number of departments, and each department was controlled in a most capable manner. They were one of the largest importers of strawboards into the United Kingdom, their goods arriving constantly at all the principal ports in the country. The success of the various branches of their business was extremely encouraging, one and all doing their utmost to achieve success. They had eight

managers present with them that evening, and their work was warmly appreciated. It was also a satisfactory feature to recognise that there was no friction in regard to the several departments. Although the primary object of business was to make a profit, yet there was something more to consider, and that was to study the welfare of all workers and to promote the mutual benefit of all concerned. In reviewing their past achievements, the chairman considered there was an enormous future for the company, and he hoped the present would be only the first of many similar happy gatherings. (Loud applause.)

The junior member of the staff being called upon to respond, Patrick Barry added to the enjoyment of the evening by a frank and breezy reply. He said that at Bermondsey Wall they had to obey orders or "something would happen." That was why he responded when called upon. (Laughter.) When he first commenced with Mr. Becker he found the larkes attractive, but he was soon put straight, "put into the office" and given responsible work "with plenty to do and good money" (laughter) and if the others were not earning good money it was their own fault—but as a fact they were. (Applause.)

Mr. de Lange (Amsterdam) was also called upon and referred to the growth of the Company's business with Holland. The name of Becker made business easy and the progress, particularly in regard to strawboards, had in a comparatively short time been most gratifying.

Mr. Chappell in suitable terms proposed "The Branches" and said those in charge of their branches had generally had an uphill fight, but they had worked hard and the fruits were now appearing.

Mr. Hobbs, whose name was associated with the toast, made a feeling speech in response. He said that many young men like himself were faced with the problem of getting back into civilian life and met many discouragements. Mr. Harry Becker, who had seen a good deal of the war, put his sympathy into practice and the speaker said many of them were grateful to Mr. Becker for giving them a chance when they badly needed it. Mr. Becker had given them a helping hand and had won their affectionate regard. (Applause.)

The toast of "The Ladies" was next honoured and Mrs. Harry Becker briefly returned thanks.

Mr. George Buchanan said it gave him great pleasure to propose what was really the toast of the evening—"Health and Prosperity to Mr. and Mrs. Harry Becker," their host and hostess. He had known their chairman since he was two years old and he was proud to see him in the position he so worthily filled that evening. It was evident that Mr. and Mrs. Harry Becker had endeared themselves to those with whom they came in contact, and that gathering was a good augury for the further success of the French Paperstock Co., which had already attained such importance and promised to considerably expand. Mr. Harry had evidently got round him a capable and energetic staff—including those appropriated from 34, Ludgate Hill (laughter)—and they all shared the hope that the vigorous policy of Mr. Harry would still prosper. (Applause.)

The toast was received with musical honours, cheers being given for "Mr. Harry," "Mrs. Harry," and the family.

The Chairman, who had a great reception on rising to respond, said he hoped they had all had an enjoyable time, and that they would meet at similar gatherings for many years to come. His wife and he greatly appreciated the kind things said regarding them and the spirit of comradeship at Bermondsey Wall meant success.

In conclusion, all joined in "Auld Lang Syne."

An excellent musical programme had been arranged and Mr. Hawkins (one of the staff) contributed to the enjoyment by his marionette show, a really good "turn."

MESSRS FELBER, JUCKER & CO. LTD.

15TH ANNUAL PICNIC.

The fifteenth annual picnic of the employees of Messrs. Felber, Jucker & Co., Ltd., of Manchester, took place on the 16th ult., a trip to Chester, St. Asaph, Corwen and Llangollen being the feature of the day. The party, which numbered eighty-five, left the Central Station, Manchester, at 8.50 a.m., and arrived at the ancient and picturesque city of Chester at 10.50 a.m. After indulging in a sumptuous luncheon at the Holborn Restaurant, the party proceeded by charr-a-banc to Holywell, thence to St. Asaph, Denbigh, Corwen, Llangollen and Wrexham, and finally returned to Chester at 6.30 p.m., where an excellent dinner was provided at the Grosvenor Hotel. After dinner, Mr. Miller expressed the pleasure all felt that they had the privilege of having their principals present that day, and he felt that they were greatly indebted to the firm for the kind consideration displayed towards the staff. It afforded him very great pleasure, on his own behalf and on behalf of the staff, in proposing a hearty vote of thanks to Mr. Jucker and at the same time wishing him long life and prosperity. The motion was carried amidst applause.

In reply, Mr. Jucker said that last year they were his guests in view of the Peace celebration, this year they were his guests owing to the fact that it marked the Diamond Jubilee of the firm, and perhaps next year it would be something else. Perhaps, he said, some particulars about the firm would be of interest to those who had only joined the firm lately. As some of them knew, sixty years ago Mr. Jean Felber started a business on a small scale at Brazenose Street, Manchester. He (Mr. Felber) always detected anything of vital importance in the textile machinery line, and he was also associated with the making of heavy roller cards and revolving flat cards. He (the speaker) remembered some years ago friends in Sweden telling him how Mr. Felber in frock coat and white kid gloves explained to a recalcitrant overlooker the advantage of flat cards over those he was using. "When I was on the road," said Mr. Jucker, "it wouldn't run to white kid gloves." (Laughter.) Continuing, he said that Napoleon stated that every French private carried a Marshal's baton in his knapsack, and he could say the same thing about his staff. The whole of the principals had always come out of the stall, and as it had been in the past he hoped it would be in the future—there was a chance for everybody. The business first started in the machinery department, and they all knew how an impecunious man in Sweden who was unable to pay offered them paper in payment, and seeing that they could make something out of paper, they accepted the offer and to day they considered themselves the premier firm in the trade. Mr. Jucker then supplied some interesting details of the success of the timber department, and explained that after the deal with the tradesman referred to, the firm saw no reason why they should not import Swedish timber—that was the commencement of the timber department. Success attended their efforts, and they later imported timber from Riga and America. The next step they took was to open a steamship department and they were the first to run a regular line of steamers from the Baltic and also the first to bring a full cargo of paper from Finland. How they started business in South Africa was a mystery that he could never quite grasp, but he expected that his uncle must have thought that as a number of people were making money out there there might be a chance for "Felber's." However, when they started making money the South African and British Governments, who were always after money, got the best part of it. Dealing with the effect the war had upon their business, Mr. Jucker said that they

did considerable business with South Germany and Austria, and in order to counterbalance this they opened the hardware department, dealing with Brazil. For the same reason again they opened their asbestos cement works in Widnes, and it was interesting for them to know that their firm were the first in Europe to make corrugated asbestos sheets. However, these sheets were made at Switzerland to their instructions and at their own risk and peril, because they could not find anyone in this country to make them. Concluding, he said that he did not like to boast, but he was proud to say that their turnover was a large one, and was no small part of the business of the British Empire, and he attributed this to the care given to every transaction and the loyal services of his staff. (Applause.)

Mr. Alston, in a short but appropriate speech, commented upon the last speaker's remark that the directors had always been drawn from amongst the staff. It was comforting, he said, to know that when a new boy joins the firm he had the hope of some day being a future governor. (Applause.) He saw no reason why a firm such as theirs of 60 years' standing should not go on for 600 years, and it was up to the present management to train the staff so that they could take their places in the management as the years roll by. (Hear, hear.)

The party arrived home safely at 10.15 p.m., after having spent a most enjoyable outing in ideal weather and surroundings.

NEW CAPITAL ISSUES.

The prospectus has now been published of Straker Squire, Limited, inviting applications at par for £300,000 seven per cent., income-tax free, short-term notes, repayable at 105 per cent., on June 30, 1925. The company undertakes that, so long as any of the notes are outstanding, no debentures or other charges will be created, other than to secure overdrafts from bankers, without the sanction of the majority of the note holders. Applications from shareholders, customers and employees will receive preferential treatment. The company, which was incorporated in 1913, has been successful throughout, dividends at the rate of 10 per cent. per annum having been paid from the commencement. Owing to the present high cost of raw material and the necessity for carrying heavy stocks to meet the increasing demand for the company's products (the orders in hand now amounting to upwards of £1,000,000) further capital can, for the time being, be profitably employed, and this issue of notes is made to repay the present overdraft to bankers and to provide further working capital. Including the proceeds of the present issue the excess of assets over liabilities will cover the total of such issue more than 2½ times. The directors anticipate a turnover for the present financial year of over £700,000, giving a net profit of upwards of £100,000, and for next year of £1,250,000, with a corresponding increased profit.

At a meeting of shareholders of the Wall Paper Manufacturers, Ltd., recently, it was decided to increase the capital to £5,000,000 by the creation of 1,000,000 new, ranking deferred, shares. Mr. Edgar Smith, who presided, said that owing to increasing costs more working capital was required, and they desired to capitalise £641,036, money already used in the business and which was really capital; £500,000 of it was the reserve fund and the balance was undivided profit. Bonus shares would be divided among the deferred shareholders, in the proportion of one new share for each two existing shares. Much talk was heard in these days of high returns on capital, and if the share capital did not approximate to the real capital employed, the figures were apt to be misleading. It was only proposed to issue £641,000 in shares, retaining the balance for issue as required. The position of the company was very satisfactory, and its enterprises were developing. The company's export trade was a very important factor in profit earning. The resolutions were carried.

BELGIAN PAPER-MAKING INDUSTRY.**A CRITICISM OF MR. W. M. JORDAN'S REVIEW.**

In our last issue there appeared the report of an interview by our Northern representative with Mr. F. L. Wright, the manager of the Manchester branch of Messrs. Lendrum, Ltd., who gave an interesting review of the situation of the Belgian papermaking industry. In the same number we also reproduced from the Convention Number of a New York contemporary "A World Wide Review of the Pulp and Paper Industry," by Mr. W. M. Jordan, Ph.B., concerning which we said that though his statements in the main were probably accurate, those relating to the number of pulp mills in the United Kingdom and to the situation of the papermaking industry in Belgium should, to say the least, be taken with reserve.

We have now received a letter from the Secretary of Groupement des Fabricants de Pâtes, Papiers and Cartons, of 86, Rue de la Montagne, Brussels, who is desirous of pointing out the contradictory views held by Mr. Wright and Mr. Jordan. The Secretary of the Belgian organisation, in his communication dated June 8, says that on one side Mr. Wright observed, with reason, that he was greatly surprised during his recent visit to Belgium to find, without any exception, "that all the paper mills were running on full production. They are at present working to meet home requirements, and they have sufficient orders for home needs to keep them going without further bookings through this year. They are, however, giving some consideration to the export side and, accordingly, have made some bookings for their old English customers." On the other hand, Mr. W. M. Jordan reports that "Belgium prior to the war, had thirty-five paper mills at Brussels, six at Antwerp, three at Liege and one at Huy, near Ghent, with an estimated output of 140,000 tons a year. In January of 1919, these mills were reported non-producers, as some had been destroyed and other dismantled. Belgium will be obliged to look to other nations for her supply of paper."

Our correspondent then goes on to say that the statement of Mr. Wright is precise (to use his own language) but that of Mr. Jordan is entirely wrong with the exception of his reference to the annual output of 140,000 tons. He then proceeds to state that Belgium has twenty-seven paper mills, with 79 machines, two pulp mills, and twelve factories making different kinds of boards.

The paper mills are situated at Willebroek, Huy-Andenne, Saventhem, Duffel, Gastuche, Nivelles, Gent, Ensisal, Limal, Genval, Droogenbosch, Virginal, La Hulpe, Mont-St-Guibert, St-Servais, Rhode-St-Genese, Noihart, Hal, Thulin, Huyssinghen, Lambecq, Dieghem, Braine-le-Comte, Malmedy, and Goefferdingen, and adds: "There is consequently no mill either at Brussels or at Antwerp. Twenty-four mills are running at full production, two will take up business this month, and one is working with three machines instead of six, the other three have been dismantled by the Boches and not yet renewed. The output of the last month was nearly 10,000 tons, of which about 2,000 tons were exported. We imported 3,000. We are consequently far from being obliged to look to other nations for our proper supply."

LORD DOVERDALE a native of Bury, has promised a donation of £4,000 to the Bury War Memorial Committee.

In the course of a reference to the announcement of the closing of the Chilworth Gunpowder Works, said to be the oldest existing Surrey private industry, the *Observer* states: "Readers of Cobbett will remember that some of the most trenchant passages in 'Rural Rides,' were inspired by the contrast between the lovely vale of Chilworth and the industries there carried on—powder-making and paper-making for bank notes. He was only consoled for his horror of a paper currency by the knowledge that paper for his own journal, *The Register*, was also made there."

THE PAPER MAKING INDUSTRY.**A NEW DEMAND FOR INCREASED WAGES, SHORTER HOURS, AND HOLIDAYS.**

On July 29, the current agreement in respect of wages in the paper-making industry comes to end, and on the 24th ult. negotiations were commenced between the Employer's Federation of Paper-Makers and the employees organisations—the Amalgamated Society of Paper-Makers and the National Union of Printing and Paper Workers—upon a new demand which has been presented by the latter.

The new memorial, we understand, asks for a mill week for shift workers of 126 hours, divided into three shifts of 42 hours each, with a working week for day workers of 44 hours.

Under the heading of wages for adult workers, a new class (Class 1A) is proposed to be added to the following workpeople: Slittermen, reelmen, cuttermen, guillotine-men, valendermen, finishers and first machine assistants.

In the existing agreement these are taken, generally, from Class 2, while spare beatermen are added to Class 1.

WAGES. As to rates of pay, an increase of 6d. per hour is asked for all grades of adult male workers with a minimum as follows:—*Shift Workers*: Class 1, two shillings and fourpence half-penny per hour; Class 1A, Two shillings and threepence per hour; Class 2, two shillings and one penny halfpenny per hour; Class 3, two shillings per hour. *Day Workers*: Class 1A, Two shillings and one penny halfpenny per hour; Class 2, two shillings per hour; Class 3, one shilling and tenpence halfpenny per hour. The rates proposed for juniors are set out in the memorial as follows:

			Males.	Females.
			per hour.	per hour.
At the age of 14	..	..	6d.	6d.
" " 15	..	..	7d.	7d.
" " 16	..	..	9d.	9d.
" " 17	..	..	11d.	11d.
" " 18	..	..	1s. 2d.	1s. 2d.
" " 19	..	..	1s. 5d.	
" " 20	..	..	1s. 8d.	

A percentage of 25 per cent. above the 'stab rate' is suggested for piece workers (male and female).

OVERTIME. The memorial suggests that "ordinary overtime shall be paid at the rate of time and a half; Sunday overtime double time, with a limit of eight hours per week. Piece hands working overtime shall be paid ordinary piece rates with an addition of half the hourly rate fixed for the grade in which the worker is engaged."

HOLIDAYS.—The following recommendation from the unions is made as to holidays:—"The following bank holidays or any national holiday declared as such by Royal Proclamation to be paid for at ordinary day time rates, viz., Christmas Day, Boxing Day, Good Friday, Easter Monday, Whitsun Monday, and the first Monday in August. These holidays may be varied in accordance with local or national custom, but to be at least six in number. That one week's holiday per annum be granted. The holiday shall be taken between March 31 and September 30, unless otherwise mutually agreed between the employer and employee, and to be paid for at ordinary 'stab rates, or in the case of piece workers at their average weekly earnings during the previous six months. Always provided that such employee has been in the employ of the firm for a period of twelve months prior to June 30. In the event of any employee leaving his or her employment such employees shall be entitled to a *pro rata* allowance in respect to the week's holiday, on the basis of one day for each completed two months' service."

Messrs. H. CORMACK & CO., LTD., board and paper merchants, 8, Lambeth Hill, Queen Victoria Street, E.C.4, advise us that owing to constantly increasing business they have been compelled to obtain larger premises. They have now secured excellent and spacious warehouses and wharfs, their new address being: Mitre Wharf, Cordova Road, Grove Road, London, E.3.

FREEMASONRY.

INSTALLATION MEETING OF THE ROYAL THAMES LODGE.

Members of the paper trade fraternity were well represented among the brethren of the Royal Thames Lodge (No. 2,966) whose installation meeting was held at Taplow on the 3rd ult. There was a distinguished gathering, the Grand Officers present being Messrs. Cecil D. Hill, P.A.G.D.C., John L. Goldstein, P.A.G.D.C., R. E. Harfield, P.A.G.D.C., and Col. J. Austin Carpenter, P.G.S.B. Many Grand Provincial Officers were present and also members of the "Papyrus" Lodge. Mr. George Oswick, a director of Messrs. Reed & Smith, Ltd., was initiated a member of the Lodge. In view of the close association of the Papyrus and Royal Thames Lodges, the ceremony of initiation was entrusted to Mr. F. W. Cayzer, a P.M. of the former Lodge, and also a highly esteemed member of the paper trade. The charge was also given by Mr. Cayzer, the ceremony throughout being of a most impressive character.

It is of interest to note that the office of Worshipful Master of the Royal Thames Lodge during the past year has been most capably filled by Mr. George Buchanan, who in installing his successor carried out the ceremony in a most capable manner, gaining for him the highest approbation.

The following officers were appointed by the newly-elected Worshipful Master (Mr. Albert H. Case), viz.: W. Bro. T. G. Buchanan, I.P.M.; W. Bro. F. W. Cayzer, S.W.; Bro. W. Rowlandson, J.W.; Bro. C. E. Roberts, D.P.G.M.; Chaplain, Col. J. Austin Carpenter, P.G.S.B., Treasurer; Bro. M. J. Faulks, Secretary; Bro. L. E. Harfield, P.A.G.D.C., D.C.; Bro. E. Flygt, S.D.; Bro. W. H. Palmer, J.D.; Bro. F. W. Spellacy, Organist; Bro. F.

Miller, I.G.; Bro. W. Brazell, Steward; Bro. R. J. Triggs, Steward; and Bro. S. G. Gallop, Prov. G. I. Tyler.

The banquet was a most successful and enjoyable function, Mr. R. J. Triggs being responsible for a most delightful programme of music, whilst he also presided at the piano.

ALBERT E. REED & CO., LTD.

Reference was made by the Chairman at the seventeenth general meeting of Albert E. Reed & Co., Ltd., to the new mills which were being erected at Aylesford. He stated that the work was proceeding satisfactorily; railway sidings and a long concrete wharf had been constructed; building operations had been commenced, and a large amount of plant and machinery was on order. He (the chairman) assured the meeting that no stone would be left unturned to secure the best obtainable, both in design and in equipment, and, heavy as the initial outlay would be, they were confident that the resultant advantages of the site, and the economies resulting from up-to-date equipment, would more than justify the expenditure and greatly add to the prosperity of the business.

Referring to the financial aspect of the report he said that the actual trading profit was not quite so much as in the previous year, but this was due to the company not having advanced their prices quite so much as their manufacturing costs had increased. Realising as they did the effect of present high prices upon consumers of paper, the directors had been content to sell rather below the actual market prices which they might have asked for and obtained. The company had, in common with most other paper mills in the country, adopted the system of three 8-hour shifts for the workers, instead of the two twelve-hour shifts previously in force. This important alteration was carried out in a very few weeks at all the mills.

PAPER MAKING MACHINERY

Only Canadian builders of paper machines for the largest work.

HYDRAULIC TURBINES

Canadian manufacturers of I.P. Morris Hydraulic Machinery.

DOMINION ENGINEERING WORKS, LTD.

MONTREAL, CANADA.

Cable Address :

"DOMWORKS, MONTREAL."

TWENTY-FOUR YEARS AGO.

JOTTINGS FROM "THE PAPER-MAKER," JULY, 1896.

MR. HAROLD JACKSON, of the Oakenclough Paper Mills, Garstang, near Preston, has recently been made a county magistrate.

ON Saturday, the 4th inst., Miss Galloway, the daughter of the managing director of the Guardbridge Paper Mills, performed the ceremony of turning on the water into the new reservoir that has just been completed for these works. The capacity of the reservoir is about 7,000,000 gallons, and has been most successfully constructed by Messrs. Buchanan and Bennet, civil engineers, of Edinburgh.

Two of our experienced paper-makers are now making a tour through the United States for the purpose of investigating American paper-making machinery in general, and some of the fast-running Fourdrinier machines in particular. These experts are Messrs. Andrew Masson and Caleb Waite, of the *Daily Chronicle* Paper Mills, Sittingbourne. They passed through New York, recently, and intend visiting such machinery builders as the Pusey and Jones Company of Wilmington, Delaware, and the Bagley and Sewall Company of Watertown, New York, and also to visit paper mills at Fort Edward, Niagara Fall, Palmer's Falls, Holyoke, and at various places in Maine.

ON the 9th inst., the Prince of Wales, while the guest of Mr. and Mrs. Wm. Portal, at Malshauger House, took the opportunity of visiting the bank note paper mills, of which Mr. Portal is one of the proprietors. His Royal Highness was accompanied to the mills by Mr. and Mrs. Portal, Lady Randolph Churchill, Lord Marcus Beresford, Sir Chas. Hall, General Ellis and Mr. Reuben Sassoon. Mr. Wyndham S. Portal (head of the firm) with his son, Mr. S. J. Portal, met the party at the entrance to the mills, and after the preliminary introductions, proceeded to escort them round the works to witness the interesting process of water-marking bank notes. After the departure of the Prince, an announcement to the employees by Mr. S. J. Portal, that the Prince, being so pleased with them, the firm, in commemoration of the event would give them a holiday on the Saturday with a full day's pay allowed, elicited very hearty cheers from the employees, who had been marshalled out along each side of the foot-path to give the party a parting salute.

A WELL of natural ink has been discovered near Louisville, U.S.A. Hundreds of people have carried away bottles of the wonderful fluid which was found while one of the residents was digging a cistern. The ink flows freely from the pen, dries rapidly, and is as indelible as the best manufactured writing fluid. It is to be put upon the market. The supply is inexhaustible, to all appearances.

THE great demand for newspaper in Canada still continues and it takes the mills all their time to keep it supplied. Contrary to expectation, no perceptible relief came with the close of the election campaign. There is evidently more of this class of paper wanted than there ever was before. Firstly, there are more papers, and secondly, the circulation of several of the leaders has gone up many points as a result of lower prices.

THE well-known business of A. M. Peebles and Son, Ltd., is being converted into a limited liability company with a share capital of £200,000, divided into 20,000 £5 per cent. preference shares, cumulative as to interest and preferential in respect of capital over the ordinary shares of £5 each; 20,000 ordinary shares of £5 each; and 100,000 shares of £4 10s. per cent. mortgage debenture stock, to be issued at 105 for each £100. The trustees for debenture holders are:—Frederick Henry Milbank, Esq., Wilberforce Savery Pasmore, Esq. The directors: John Henry Fraser Walter, Esq., of Taverham Paper Mills, Mason Jackson, of the *Illustrated London News*; George John Maddick, Esq., of the *Illustrated Sporting and Dramatic News*; Edward William Frederick Hopewell, Esq.; and Howard Maxwell Peebles, Esq. Mr. W. S. Pasmore is the secretary.

ON the 2nd inst., the interesting experiment of searching for water by a forked twig, commonly known as a "divining rod," was made in the neighbourhood of the Culter Paper Works. The expert, Mr. John Stears, from Yorkshire, who was employed by the directors of the company to perform the operation, arrived at Culter in the morning, and at once proceeded to perambulate the fields in the neighbourhood of the establishment, armed with a bundle of the wouder-working instruments, which, as he explained to the interested party, who accompanied him, must be of a thorny character, such as hawthorn. The directors of the company present were:—Mr. J. H. Bower, chairman; Mr. John Cronbie, of Danestone; Mr. James F. Lumsden, Mr. Johnstone, manager; and Mr. W. L. Geddes, secretary. A large spring of water was alleged to exist in a field near the works and the ground indicated by the "diviner" was duly pegged out. Some time ago the divining rod was successfully employed to find water for Inverarie Paper Mills.

THE wood pulp imported to this country during the past half year, is considerably in excess of that for the corresponding six months of 1895. The following are the quantities of value:

	From Norway.	Tons.	Value
January-June 1896	..	100,988	£442,707
" 1895	..	73,810	341,845
" 1894	..	80,795	332,915
	From other Countries.	Tons.	Value.
January-June 1896	..	45,764	£306,846
" 1895	..	49,048	312,657
" 1894	..	52,556	320,267

The following are the total quantities and values for the first six months of this and the two previous years.

January-June 1896	..	146,752	£749,553
" 1895	..	122,858	657,502
" 1894	..	133,351	662,182

It will be seen that the increase in the wood pulp imports for the first six months of 1896, is 23,894 tons over that of 1895. The quantity of wood pulp received from other countries during the past half-year is rather below that for the corresponding period of 1895. There is a depreciation in quantity of 3,204 tons, and in value £5,811. Norway exported wood pulp to Great Britain last year to the value of £803,731; Sweden, £528,952; Holland, £55,580; Germany, £41,106; Belgium, £29,999; Russia, £29,996; Australian Territories, £10,238; Denmark, £6,260; Canada, £55,344; United States of America, £6,685.

Messrs. Legge Bros. & Co., have moved their offices to Audrey House, Ely Place, Holborn, E.C.1, as increase of business renders it necessary to take very much large premises.

You can get more out
of your boilers by using
Bennis - Stokers.

THEY are made in many sizes and
to suit all standard types of boilers.

- (1) The sprinkler, the most powerful and rapid steam raiser on the market.
- (2) The chain grate with the "Bennis" ant links, indispensable for water-tube boilers.
- (3) The high temperature, smokeless, coking stoker, specially suitable for Paper Mills and other works requiring smokeless and gritless combustion.



Ed. Bennis & Co., Ltd.
Little Hulton Bolton.
And at 28, Victoria Street, London, S.W.1.

"BENNIS" Machine Stokers fed by
"Bennis" Elevators, increasing boiler
duty and saving coal and labour.

TORP BRUGS A/S Fredriksstad, Norway



Highest-
Class

PURE KRAFT PAPER

M.G. & Unglazed
D/C 16 lbs and up

WIDTH OF (For M.G. 100 ins.
MACHINES (For Unglazed.. . . 100 and 120 ns.

Representatives for

LONDON & EXPORT: Mr. T. V. OLSEN, Lambert House, 10/12, Ludgate Hill, London, E.C.
ENGLAND (except London): Messrs. MAJOR BARLOW & SON, Vulcan House, Ludgate Hill, London, E.C.

SCOTTISH NOTES.

[BY OUR GLASGOW CORRESPONDENT.]

It is rather curious at this late time of the day to find a Scottish paper which in pre-war days sold for one penny, now announcing that it is reluctantly compelled to raise its price to three-halfpence. One wonders how it has been possible for any such newspaper to struggle along on the old price for so long. The newspaper in question makes the boast that it is practically the last newspaper in Scotland to raise its price, but I do not really think that this is any great compliment which it is paying itself for the reason that a back-slider as far as any price-raising was concerned did not do others any particularly good turn. "Owing to the very high price of paper," is a common announcement in any Scottish newspapers now making a second increase in price, "and to the great difficulty of obtaining supplies of news print from the paper mills, publishers of newspapers are faced with many business anxieties and problems at the present time. Recently, for instance, we had not sufficient paper in stock to print our Saturday edition until Thursday afternoon, when a small consignment of paper, part of an order placed more than two months ago, arrived at the goods station just in time. The cost of paper is now 7½d. per pound, or almost double the price at the beginning of this year, and notwithstanding the increase in price (which, by the way, only goes a small way towards meeting the increase in the cost of paper) the number of copies which we print weekly continues to increase while the paper manufacturers are colling upon us to reduce our tonnage."

There is no doubt that many newspaper proprietors are finding themselves in a very difficult position with regard to the present shortage of paper supply, and I have just been having a conversation with the proprietor of a paper which first saw the light of day no less than sixty years ago. He tells me that so far he has never been in such drastic straits as not to be able to publish his newspaper, but he fully corroborates what is said in the above announcement namely, that often it is Thursday night before his supply of paper reaches him and that it is only by a great hurry and hustle at the last moment that he is able to get his paper out with reasonable promptitude. One week (he tells me) he had to 'phone to his paper-makers no less than fifteen times in one afternoon before they could manage to send along even a passable supply. This proprietor, by the way, has just been pointing out in the columns of his newspaper that the price in the cost of paper is making some people wonder why the door-to-door collections of waste paper have been abandoned. They were very lucrative, and hundreds of pounds was realised through them for war needs. Why have they been dropped? The hedgerows round about the vicinity are littered with paper, and quite a tidy sum would be made by anyone taking the trouble to pick it up and dispose of it to dealers.

There has just been formed into a limited liability concern the well-known and old-established firm of Messrs. Brown and Thomson to carry on the existing business of paper merchants, etc., at Glasgow. The authorised capital of the new company is placed at £6,000, and it is a private concern with, among its first subscribers, Mr. William L. Battison, paper merchant, and Mr. James Inglis Hill, paper salesman, both of whom for many years have been well-known in the Scottish paper-making trade. The firm in question has always ranked as one of the best-known concerns of their kind in the West of Scotland, and I wish the House of B. & T. ever-continuing success under its new auspices.

It is interesting to note that at a recently-held meeting of the Dumbarton Educational Authority a letter was

submitted from the Clerk to New Kilpatrick School Management Committee making a recommendation regarding the provision of a class in paper-making next session. This was reserved for future consideration, but I understand that the feeling of the members was strongly in favour of such a class being started. The recommendation to start such a class is certainly an important one, and it will be interesting to watch further developments which, of course, I hope to chronicle in these columns in due course.

In last issue I had some interesting information to offer regarding the flotation of the well-known Donside Paper Company, Limited, and I notice that the editor of a Scottish newspaper—in referring to the five-and-a-half per cent. debentures free of income-tax to form a first charge on the heritable property of the company—says that this is a specially good offer that will yield to the investor a handsome return. "Paper mills are doing remarkably well just now, but even before the war Donside paid average dividends of over ten per cent.," is a continuing comment by the same writer. Meantime I am pleased to add that there has been a big rush for Donside shares, and that this enterprising company is starting on its new career under the most promising auspices.

At a recently-held sitting of Glasgow Dean of Guild Court a plan and petition were presented on behalf of Messrs. John Craig and Son, Limited, to erect a new and up-to-date stable at their well-known paper mills in the Maryhill district of the city, and—as the plans were found to be all in order—the civic permission was duly forthcoming. This particular firm are the proprietors of the Dawsholm Paper Mills, and here is carried on a large and flourishing business in all branches of the paper-making trade. The firm is managed with outstanding enterprise in all its departments, and altogether it is one of these sound business concerns of which the city of Glasgow has every reason to feel proud.

Recently a well-known Glasgow morning paper started a campaign against the alleged wastefulness shown by the Labour Exchanges, and as a result many correspondents sent in their views—one such letter-to-the-Editor appearing in print with the heading: "The Paper Business; Officials who Live by Making Work." In the course of his letter the writer alleged that the volume of business in circulars, instructions and counter-instructions from the Divisional Office to the Labour Exchange which he was in was enormous. "The various circulars," he continues, "relating to the general procedure of the Exchange were duly handed round to the various clerks by an assistant-assistant-deputy manager, who was always a permanent official. This work could not be given to a temporary clerk, as these temporaries had always outside business experience and might have lost any of those vital circulars of instructions! If you had seen the volume of confidential waste paper which four managers and deputies tore up and stowed away there would not be such a terrible noise about the useless Exchanges. The tons of waste-paper (old forms and circulars) which it was our important work to prepare, did the paper factories an enormous amount of good."

Deep regret has been occasioned among his many friends in the Scottish papermaking trade at the death of Mr. John Hutchinson Brown, who for so many years acted as the manager of the well-known and old-established Dalmarnock Paper Mills in Glasgow. These paper mills are among the longest-established of their kind in Glasgow and the West of Scotland, and under the late Mr. Brown's energetic management a large and ever-increasing volume of trade was carried on. The deceased was a gentleman of a very genial and affable temperament, and he was held in the highest esteem and respect.

EBURITE PAPER CO. LTD. AMBERLEY WHARF, PADDINGTON, W. 9.

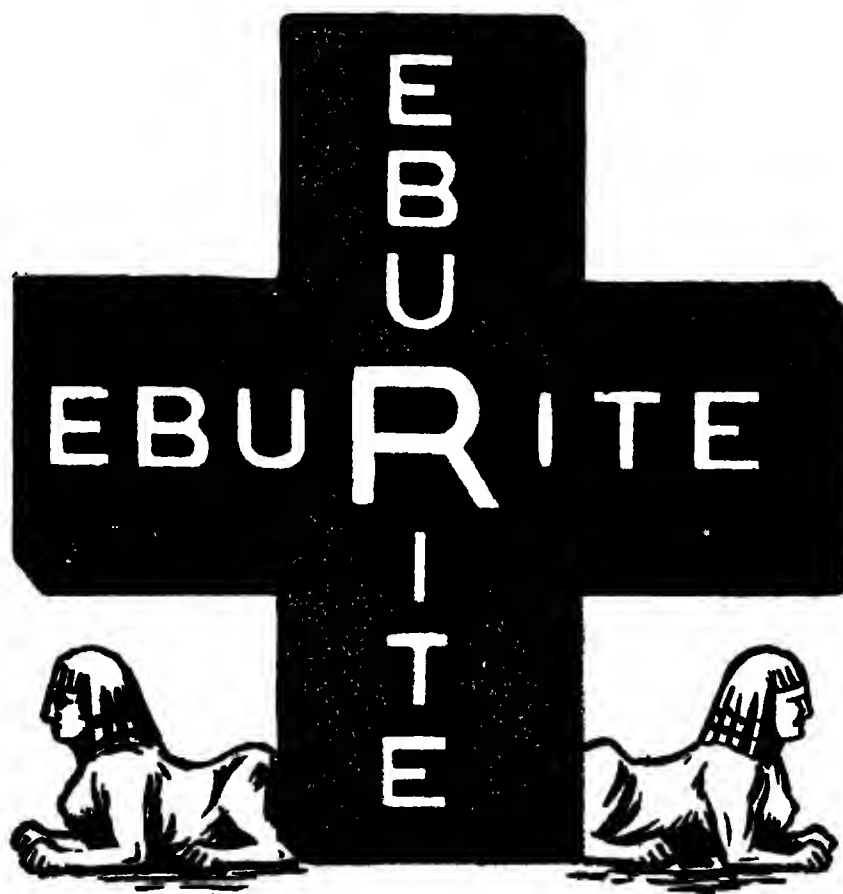
WAXED PAPERS

„ Pieces
„ Parchments
„ Tissues

MANUFACTURERS

CORRUGATED PAPER

„ Boxes
„ Cartons
„ Rolls
„ Pieces
„ Greaseproof



FANCY PAPERS

Crinkled Papers
Crepe Papers
Shelf Papers
Shavings

EBURITE PAPER CO. LTD. AMBERLEY WHARF,
PADDINGTON, W. 9

THE MARKETS.

(For Wood Pulp Markets see page 767)

ESPARTO.

Messrs. Ide & Christie's Monthly Circular, dated June 15, states: A return showing the quantity of Esparto imported into the United Kingdom during the month of April, 1920:

Date.	Port.	Vessel.	Place Whence.	Tons.
April 6	Glasgow	"Chibiabos"	Aguilas	600
" 6	"	"Africania"	"	736
" 8	"	"Chibiabos"	"	10
" 8	"	"	"	365
" 21	"	"Carrow Park"	Oran	520
Mar. 27	"	"Orthia"	Sfax	2,222
" 17	"	"Schwinge"	Aguilas*	3
" 2	"	"Idlesleigh"	"	21
April 22	Bristol	"Dagruin"	Cartagena	25
" 29	Liverpool	"Zantwen"	Almeria	206
Feb. 13	Bristol	"A. E. Amis"	Aguilas*	2
Mar. 10	Leith	"Ravenstone"	Susa*	1
April 7	London	"Venetian"	Algiers	50
" 14	"	"Tapton"	Susa	16
" 1	Grantun	"Albano"	Cartagena	1,180
" 5	Leith	"Rio Galindo"	Aguilas	1,596
" 7	"	"Atsuta Maru"	Almeria	1,481
" 8	"	"Ailsa"	"	30
" 9	"	"	"	20
" 9	"	"	"	22
" 26	Sunderland	"Islandia"	Sfax	1,005

Deductions:—

Feb. 14	Bristol	"A. E. Amis"	Almeria	10
Mar. 10	Leith	"Ravenstone"	Susa	40

* Additions to amend previous returns.

CURRENT PRICES F.O.B. SHIPPING PORTS.

	£	s.	d.	£	s.	d.	
Oran, fair to good	12	0	0	14	0	0	per ton
first quality	12	0	0	14	0	0	"
Bona & Philippeville, gd. av.	12	0	0	14	0	0	"
first quality	12	0	0	14	0	0	"
Sfax and Gabes	12	0	0	14	0	0	"
Tripoli, fair average	12	0	0	14	0	0	"
hand-picked	12	0	0	14	0	0	"

HOME RAGS.

LONDON.—Trade is reported fair, most sorts being in good demand still. A few grades of the lower qualities are a little easier, but only temporarily so.

Fines (selected)	per cwt.	46s. od.	to 50 0
Outshots (selected)	"	34s. od.	" 36 0
Seconds (selected)	"	28s. od.	" 30 0
Seconds (country)	"	20s. od.	" 22 0
Thirds	"	—	" 9 0
Prints (old)	"	—	" 16 0
" dark	"	—	" 8 0
No. 1, Canvas	"	40s. od.	" 44 0
" 2, "	"	30s. od.	" 34 0
" 3, "	"	16s. od.	" 20 0
Common Jute Rope	"	14s. od.	" 16 0
Clean Gunny	"	12s. od.	" 14 0

EDINBURGH.—There is no change to report in market conditions.

FOREIGN RAGS.

LONDON.—Prices remain practically unchanged.

No. 1 White Linens	per cwt.	£3 5 0 to £4 0 0
" 2 "	"	2 10 0 " 3 0 0
" 3 White Linens	"	2 0 0 " 2 10 0
" 1 White Cottons	"	2 10 0 " 2 15 0
" 2 White Cottons	"	2 5 0 " 2 10 0
" 3 "	"	1 10 0 " 1 15 0

Old Grey Linens	per cwt.	£3 5 0 to —
Coloured Cottons	"	1 6 0 " —
Housecloths	"	0 18 0 " —

CHEMICALS.

A fair volume of business has recently been put through both for home and export. A good enquiry for Bleaching Powder is reported.

Alum, best lump, in tierces F.O.B., at makers' works	ton	£17 10 0
Do., ground in bags	"	18 0 0
Alumina, Sulphate of, 14 per cent.	"	17 0 0
Bicarbonate of Soda, F.O.R.	£9	to 11 0 0
Ammonia Alkali	£7	to 7 10 0
Bleaching Powder, 35 per cent., carriage paid	"	24 0 0
Caustic Soda, white, 70 per cent. (net), carriage paid	"	29 0 0
Caustic Soda, white, 60 per cent. (net), carriage paid	£22	to 28 0 0
Soda, Crystals, bags	(delivered)	6 10 0
Potash Bichromate	lb.	0 2 1
Potash, Yellow Prussiate	"	0 2 2
Soda Bichromate	"	0 1 0
" Prussiate	"	0 1 7½
Sulphur (Rock Brimstone)	ton	22 0 0
" (Flowers)	"	28 0 0
" (Roll Brimstone)	"	23 0 0
White Lead (English)	"	100 0 0
Chlorate of Potash, in kegs, F.O.B.	1s. lb. to	0 1 1
" Soda	5d.	0 0 6

MINERALS, ETC.

Prices remain at last month's levels.

Ochres, English and Irish	ton	£11 10 0*
Umbers (Brown and Green Shade)	"	10 0 0
Reds, Venetian	"	10 10 0
" Turkey	"	62 10 0
* Other prices according to shade, quantity, and quality.		
Black, Mineral	ton	£8 10 0
" Carbon (pure)	"	195 0 0
Pulp, Black	"	32 0 0
Brown, Soluble (Crystals)	"	28 0 0
" (Pulp)	"	11 10 0
Yellow, Imperial	cwt.	1 12 0
Blue Paste (pure)	"	24 0 0
Yellows, Lemon, Orange (pure)	"	4 10 0
Mineral White, Superior No. 1	ton	3 1 0
" " " 2	"	2 0 0
" " " 3	"	1 8 6
Barytes, Best White	"	15 0 0

All F.O.R. Makers' Works, net.

China Clay of various qualities for all purposes; prices from 35s. to about 75s. per ton f.o.b. Cornwall.

SIZING MATERIALS.

Fine Skin Glue	cwt.	£8 10 0 to £10 0 0
Common Glue	"	£7 10 0

There is a good export demand for Glue, which, with a Home Trade quite brisk, rather tends to harden values.

ROSIN.

The Rosin market is on the quiet side and since our last prices have declined. This is due to absence of demand, but should consumers again become active within the next few weeks, we are inclined to think that prices will again substantially advance. Quotations up to a recent date are:—American B., 45s.; F., 54s.; G., 54s.; usual terms and conditions.

JAMES BERTRAM & SON, Ltd.,

**Leith Walk,
EDINBURGH.**

Speciality :
PAPERMAKING MACHINERY.



OUR PATENT ROTARY DRUM STRAINER

is the best apparatus now at work. It is absolutely noiseless, works in oil, and needs no attention and few repairs. Stroke can be regulated while at work. Over 200 now running with great success.

Telegrams : "BERTRAM, LEITH."

Telephone : No. 521, LEITH.

FINANCE.

A good inquiry is reported in reference to paper mill shares, quotations being firm and rather more business being effected.

It will be noted that Messrs. E. S. and A. Robinson, of Bristol, have issued a prospectus offering £250,000 7½ per cent. cumulative preference shares of £1 each at £1 per share. The details make the interesting announcement that the dividend paid on the ordinary shares of Messrs. E. S. and A. Robinson, Ltd., has not been less than 10 per cent. in any year during the last twenty-five years. It is further mentioned "that in order to ensure its supply of paper the company has purchased during the last few years three paper mills, two in Scotland and one in the West of England, and has also secured two auxiliary businesses doing a similar class of trade to that of the company. It is also intimated that there are over 30,000 customers on the books of this prosperous concern, which on February 29, 1920, showed a surplus of assets over liabilities of £778,488 10s., and, therefore, no amount is included for goodwill in these figures.

The directors of the Sun Paper Mill Co., Ltd., have declared an interim dividend of 1s. and bonus of 1s. 6d. per share for six months ended May.

The Newnes and Pearson Printing Company, Limited, the registration of which is referred to elsewhere, has been formed to establish an extensive and up-to-date printing works for the purpose of printing the publications of George Newnes, Limited, and C. Arthur Pearson, Limited. The company, which has a capital of £200,000 in £1 Ordinary shares, will acquire the freehold works, plant, stock, book-debts and goodwill of the business of the London Colour Printing Company, Limited, whose registered office is at 2, Exmoor Street, North Kensington, London. These assets (exclusive of book-debts, estimated at £12,000, and goodwill) have been valued by Messrs. Knight, Frank and Rutley at £72,000. The purchase price is £70,000, to be satisfied by 70,000 fully-paid shares of £1 each in the company. George Newnes, Limited, and C. Arthur Pearson, Limited, will also transfer to the company other plant and machinery valued by Mr. Ruddock at £80,000. This sum will be satisfied by the issue of 80,000 fully-paid shares of £1 each in the company, of which 40,000 will be issued to George Newnes, Limited, and the remaining 40,000 shares to C. Arthur Pearson, Limited. In order to provide the capital required for the proposed extensions and for the additional plant and machinery the company recently offered for subscription 15,000 debentures of £10 each, bearing interest at the rate of 8 p.c. p.a., payable half-yearly on December 31 and June 30. The debentures are to be payable at par on June 30, 1940, or at any previous time on the company giving six months' notice to the debenture-holders and paying a premium of £5 p.c. The principal and interest will be secured by the joint guarantee of George Newnes, Limited, and C. Arthur Pearson, Limited.

The directors of A. R. Reed & Co., Ltd., report that for the year ended March 31 last, after writing off depreciation on buildings, machinery and plant, and providing for interest on debentures, etc., accounts show a profit of £135,185. Adding balance brought forward, and deducting interim dividends paid on preference and ordinary, balance available for disposal is £232,848, which directors propose to deal with as follows:—Placing to reserve fund, £45,000; payment of a final dividend of 7 p.c. on ordinary (making 14 p.c. for year, free of tax), leaving to be carried forward £185,408.

The report of Messrs. James Keith & Blackman, Ltd., for the year ended March 31, 1920, shows that after providing for debenture interest, excess-profits duty, corporation tax, and making sufficient allowance for depreciation and reserves against doubtful debts, audited accounts show net profit of £53,059; add balance brought forward, £12,792; making total of £66,451; deduct preference dividends paid on October 1, 1919, and April 1, 1920, £2,112, leaving a balance of £64,339. Directors recommend that this sum be appropriated as follows:—Dividend for whole year on ordinary numbered from 1 to 100,000 inclusive at rate of 20 p.c. free of tax; transfer to reserve account, £13,750; carry forward, £18,559.

The Colthrop Board and Paper Mills, Ltd., report profit, subject to provision for excess-profits duty and tax, of £43,728 (as against £18,288 for previous nine and a half months), to which must be added £1,323 brought forward, making a total of £45,051. Directors propose to form a reserve of £25,000 for excess-profits duty and tax, pay a dividend at rate of 20 per cent. per annum, less tax, from dates various calls on shares were paid up, to write off one-third of preliminary expenses, viz., £2,095, and to carry forward balance.

Amount of Shares.	Paid.	Company.	Last Dividend.	Mean Price and Quotations.
1	1	Amalgamated Press 5% c.p.	5	15/1½
1	1	Annandale & Son, ordy.	10	24/0
5	5	Do. pref.	5	73/0
1	1	Associated Newspapers, ordy.	7	17/3
1	1	Becker & Co., Ltd. ..	15	33/6
1	1	Brunner, Mond & Co. ..	2/6	34/6
7	10	Do. 7% cum. pref.	7	10½
7	7	Bury Paper Co., Ltd., ordy.	15	13½
5	5	Burnley Paper Co., Ltd. ..	20/	15-20
1	1	Castner-Kellner Alkali ..	4½	3½
10	10	Cassell & Co. ..	8	7½
1	1	Darwen Paper Co., Ltd., "C."	7½	42/6-2-2½
1	1	Dickinson (J.) & Co., Ltd. ordy.	10	1½-1½
Stk.	100	Do. 5% cum. pref.	5	70
Stk.	100	Do. 4½% 1 Mt. Db. Rd., all pd.	—	62/6
10	10	East Lancashire Paper Co. ordy.	10	19½
10	10	Do. 6% pref.	10 & 5	22
5	5	Do. bonus	5	5-5½
1	1	Electro Bleach & By Products Co. 7% pref.	7	22
5	5	Gnardbridge Paper Co., Ltd.	12/6	10-10½
Stk.	100	Hartlepool Paper Mills, ord.	—	22/6
1	1	Levinstein 4½ def.	—	92
1	1	Lloyd (Ed.) 5½% cum. pref.	5½	15/0
1	1	Marsden (Chas.) & Sons ord.	4	24/6
1	1	Do. 7½% part. pref.	9	22/6
1	1	Newnes (George) ord.	15	15/3
1	1	North of Ireland Paper Co.	12½ & 5	3½
10	10	Olive Bros. ..	12½ & 5	14-15
10	8	Do. fully paid	5	9½
5	4	Do. pref.	10	5½
5	5	Olive & Partington 5% pref.	5	3½-4
1	1	Owen (T.) & Co. 6% pref.	6	15/6
1	1	Do. ordy.	20	30/6
5	5	Pearson (C.A.) 5½% cum. pref.	—	61/3
5	5	Peebles (A. M.) & Son ..	5 & 4	6
5	5	Do. cum. pref.	5	2½-3½
Stk.	5	Do. 5½% debts.	5½	9½
5	100	Ramsbottom Paper ordy.	25	19/6
1	3	Do. 5% pref.	—	19/6
Stk.	1	Reed (A. E.) 4½% 1st mort. deb. rd.	4½	65
1	1	Reed (A. E.) 5½% cum. pref.	5½	14/0-15/7½
5	4½	Roach Bridge Paper Co. ..	10	5½-6½
4	4	Salt Union ordy.	3/0	1½
6	6	Do. 7% cum. pref.	3/0	22/0
Stk.	100	Do. 1st mort. debts.	4½	72
Stk.	100	Do. "B" do.	4	66
10	10	Spicer Bros., 5% cum. pref.	5	7
5	5	St. Neots Paper Mill Co., Ltd.	15/0	7½
5	3	Star Paper Mill Co., Ltd. (Peniscotes) ordy.	20	25/0
Stk.	100	Do. 10% cum. pref.	10	4½
10	10	Do. 4½% debts.	4½	80
1	1	Townsend Hook & Co. Ltd.	7	8½
10	10	United Alkali Co., Ltd., ord.	4/0	1½
10	10	Do. 7% cum. pref.	7/0	8½
Stk.	100	Do. 5% mort. debts.	5	73½
10	10	Waterlow & Sons ..	—	—
10	10	Do. 6½% non-cum. pref. ord.	5/0	9
10	10	Do. 4% cum. pref.	4/6	5½
10	10	Waterlow Bros. & Layton ord.	17½	7
10	10	Do. pref.	50/0-7	6½
1	1	Wall Paper ordy.	10	20½
1	1	Do. 5% cum. pref.	5	13/10½
1	1	Wall Paper def.	5	24/4½
1	1	Wiggins Teape & Co. ord.	—	25/0
1	5	Do. 7% pref.	—	19/0

CODES.—A.B.C. 5th & 6th Edition. A.1. Western Union. Marconi. Watkins. Benteleys. Private.

Telephone No.: City 7341
(5 lines)

Telegrams:
ODONTOID CENT LONDON

BECKER & CO.,

LIMITED,

34-40, Ludgate Hill, London, E.C.

And at MANCHESTER, PARIS, NEW YORK,
HALIFAX, N.S., CHRISTIANIA, STOCKHOLM, ETC.

THE LARGEST IMPORTERS OF WOOD PULP

AGENTS FOR

CHICOUTIMI PULP CO., Chicoutimi. Canadian
Hot Ground Spruce.

HA! HA! BAY SULPHITE CO., LTD. Port
Alfred, Quebec.

ST. LAWRENCE PULP & LUMBER CO., Gaspé,
Canada. High-Grade Sulphite Pulp.

RIORDON PULP & PAPER CO., Montreal.
Easy Bleaching Canadian Sulphite Pulp.

SISSIBOO PULP & POWER CO., LTD., Weymouth
Falls, N.S.

CLYDE RIVER PULP & PAPER CO., Clyde
River, N.S.

FORSMARK BRUK, Forsmark. Easy Bleaching
Soda Pulp.

SUNDS AKTIEBOLAG, Sundsvall.

AGENTS FOR EUROPE

FOR CROWN WILLIAMETTE SULPHITE CO., LTD., U.S.A.

THE Wood Pulp Maker.

**Specially Representing the Interests of the Cellulose and
Wood Pulp Industry.**

VOL. LX. No. I.

JULY 1 1920.

[ALL RIGHTS RESERVED.]

THE AMERICAN PULP AND PAPER ASSOCIATION.

FORTY-THIRD ANNUAL MEETING.

The forty-third annual convention of the American Pulp and Paper Association was held in New York recently, and was an unqualified success. The President (Mr. George W. Sisson, Jun.) presided over the proceedings at the annual business meeting, and, in the course of his opening address, said that the association was growing steadily in membership and influence, an increase of over 75 members being reported. He went on to say that there was a growing sense all over the country of the importance and vital necessity of their industry and a higher appreciation on the part of owners and managers of the dignified position the industry commanded among the industries of America. The association could not, therefore, shrink from full participation in the great drama of the industrial life of the nation, but must take part in the broad activities and national problem of American industry. In a reference to the National Industrial Conference Board, Mr. Sisson said that the scientific character of its research work in the industrial field and the value and soundness of the conclusions reached had been increasingly recognised until the Board was widely acknowledged as the most constructive agency in the country, having to do with the solution of industrial problems. The Board merited their active co-operation and generous financial support, and he would like to see the Association contributing not less than \$1,000, and individual contributions from the paper industry to a total of at least \$20,000.

Reviewing the question of industrial relations, Mr. Sisson said that capital and labour would reach the sure ground of adjustment whenever, through sanity or suffering, they had arrived at a willingness to be fair. Fairness was absolutely necessary to the full development of industry. He went on to say that the trouble had been that the specious and unsound arguments of the agitator had met with practically no organised opposition, and the possibilities of a campaign of education, in the simplest terms, on the fundamentals of economics were indeed great.

In the course of a reference to the necessity of industrial education, the President went on to say that manufacturers realised that they were dependent for their future on a better adjustment between education and industry. To keep pupils in school was not so much to-day a programme for keeping them out of industry as it was a programme

for fitting them better to take useful places in industry, and he advocated the view that in the broad field of public education provision should be made for the real development of social and economic system by courses giving good training for general citizenship. The necessity for trained men in the paper industry had been clearly recognised, and the association had already commended the course in vocational education in paper-making prepared by the Joint Executive Committee of the Technical Association. Arrangements were being made for giving instructions through the use of text books in various localities. These text books had been prepared by the best qualified technical men, and when completed would give the pulp and paper industry the distinction of being the first great industry that had provided means for instruction in these essential processes. The expense of the committee had been kept strictly within the limits of \$30,000, of which \$20,000 was assessed upon mills in the United States. About \$16,000 of this had been contributed by some hundred pulp and paper firms.

Mr. Sisson also referred to the technical research which was being conducted in the Forest Products Laboratory at Madison, the Bureau of Standards in Washington, and other ways. With regard to forest conservation, he said, that prodigal and wasteful methods in the past, both in their forest and in mill processes, had brought the industry and consuming public face to face with an alarming condition, remedies for which would be difficult to find. At the Association's business conference last November, a report was given embodying a proposed national forestry policy of comprehensive scope. Five thousand copies of this report were printed and distributed widely over the United States and Canada, and in comparison with the suggested forest policy proposed by other organisations, the Committee's plans apparently met the demands of the situation in a very effective way.

A factor having practically the most important bearing on the future raw material supplies for American pulp and paper mills, said Mr. Sisson, was the attitude of Canada in prohibiting the export of pulp wood from leased Crown Lands, even where these leases were purchased years ago in good faith by American manufacturers, and the further intimation in recent public utterances by men of note in Canada that export of wood from private land might also

be entailed. While this statement and attitude might not reflect a definitely settled policy, they deserved attention and discussion by the members of the association. The markets of America had been freely opened to the products of Canadian mills and the industry there owed its phenomenal development to that fact. It was further true that Canadian industry must have American coal, of which several million tons annually were sent across the line. Co-operation on a large and magnanimous scale, and in the most sympathetic spirit must be the rule if the industry was to prosper in both countries. Common fairness intimated that access to raw material should not be denied on either side, and a restricted policy in excess of what was fairly necessary for national requirements was not in accord with the co-operative spirit which must rule in International relations. The so-called Underwood resolutions then before Congress provided for the appointment of a commission to take up these matters with the Canadian Government, with a view to working out a fair and equitable solution, had the official support of the association, and they confidently looked for a successful outcome of their negotiations.

Before concluding, the President, referring to foreign trade, said that to be recognised as a dependable exporter America must show equal consideration for the foreign market in times of inflated demand at home as in times of depression, and now was the time to keep faith with their newly-acquired friends.

The report of the Secretary-Treasurer was a comprehensive record of the Association's work during the year, and an interesting report was submitted by the Forestry Committee, which stated that the production of all kinds of paper in the United States in 1919 was nearly 6,200,000 tons, or 115 lbs. per capita. In newsprint alone the annual consumption had increased from 3 lbs. per capita in 1880 to not less than 35 lbs. in 1920. Increases in the use of other grades of paper had been equally striking, and no one could set a limit to the possible extension of the field for paper products. As had been repeatedly emphasised, the bulk of the raw material for paper now is wood, and probably would continue to be wood so long as wood could be obtained. In reference to the National Forest Policy several suggestions were made, including those of a permanent annual Federal appropriation of \$1,000,000 to be expended in co-operation with the State for forest protection, care and management; an annual appropriation of \$5,000,000 for the purpose of enabling the Federal Government to make a complete and accurate survey of all lands now included within the boundaries of the national forest, etc.; a permanent annual Federal appropriation of not less than \$3,000,000 to be expended in the completion of the programme contemplated in the acquirement of forest areas of navigable streams in New England and the Southern Appalachians; the extension of general authority to the Secretary of Agriculture to exchange National forest land, stumpage, or timber certificates for private timbered or cutover land within or adjacent to existing national forests.

THE ANNUAL BANQUET.

At the annual banquet of the Association, the President (Mr. G. W. Sisson, Jun.) presiding, the principal guest was the Hon. Irvine L. Lenroot, United States Senator from Wisconsin, who, in the course of his speech, said that a healthy country Press was one of the strongest safeguards of the nation. With rare exceptions they were patriotic, order-loving and law-abiding, and he suggested that even if their business was not so profitable to paper-makers, the country Press should receive their supplies of paper upon reasonable terms. Referring to the high cost of Government, Mr. Lenroot asked, "Do you realise that this year the taxes imposed by the Government of the United States amount to more than \$250 for every family in the United

States? And, strange to say, the administrative officials of this Government keep asking for money, as if we had not whipped the Germans, and as if the War was still upon us." After a reference to the relations existing between capital and labour, Mr. Lenroot entered upon political topics, and discussed the question as to why the Senate did not ratify the treaty which President Wilson brought back from Versailles. He said there was a fundamental difference between President Wilson and the Senate as to the reason why America entered into the War. He did not agree with President Wilson that it was because they had no grievances of their own, but there was a high philanthropic purpose. The Senate voted for the declaration of War primarily because they felt it was necessary to preserve liberty in America. Mr. Lenroot, in some further observations, said that of all the nations gathered round the Peace table at Paris there was only one nation that sought no advantage for itself, and that was the United States of America. (Applause.)

Another guest was the Rev. Dr. Jeremiah Boynton, who addressed those present as his dear parishioners, in allusion to the fact that he invariably attends the annual dinner. In the course of his speech, Dr. Boynton advocated the idea that American people should cultivate the international conscience. There were some people who were saying that they must absolutely take care of America willy-nilly and leave the international situation to take care of itself. It was not always so. That was not the thought of Abraham Lincoln. The truth was that the world was greater than even the American heart. He mentioned the case of a great New York banker who had gone over to London, Paris, Vienna, and other cities, to see if anything could be taught him about finance. That banker had not been gone one month before he found his fundamental ideas were wrong, and that they had to be absolutely changed. If there were any people present who had never seen the situation as it exists to-day in France, Germany, Belgium, and England, and who had reckoned themselves competent to make the great conclusion, they were likely to be mistaken, and that was one of the great perils of American life in all its departments. The first thing which was necessary for America to-day was vision. What America needed more than anything else was International knowledge horn of International observation. In an eloquent passage, Dr. Boynton said: "How does it happen that America, disinterested, magnificently sacrificial, appears to have withdrawn from the international situation, and be making an overdone principle of her own national affairs? America, who the fortunes of War have favoured as no other nation in the world, half of all the gold in the world in the treasuries of the United States, and a third of all the diamonds in the world glistening in the ears and on the bosoms of our women; America, whose losses in war were so slight, so pathetic, for those that experienced them, sixty or seventy thousand beneath the daisies and the poppies in France and two or three hundred thousand more maimed in one way or another, while England with her 45,000,000 in Great Britain, laid 1,000,000 of the flower of her country beneath the poppies of Flanders, and has had 3,000,000 maimed in more or less degree for their whole life." Continuing, Dr. Boynton said they could not take the measurement of their girth and the temperature of their bodies and just plan together about themselves and "think that everything was going to go on, and that they were going to be in a position where, when there was trouble in some other part of the world, they could just simply extend their lordly dictum and the world would readjust itself according to their smug and insular ideas. That was not the way influence went in the world to-day. Dr. Boynton concluded by appealing for an "Internationale of Gentlemen," and prayed that the day would soon come when there shall be a real Federation of the World and a real Parliament of Men.

AUSTRALIAN NEWS.

Interim Dividend Paid.

THE directors of the Commonwealth Board Mills, Ltd., have paid an interim dividend for the half year ended February 29 last at the rate of 8 per cent. per annum, on all classes of shares.

Proposed Increase of Capital.

AT an extraordinary general meeting of the Australian Paper Mills Co., Ltd., to be held at 304-316, Flinders Street, the following motion will be submitted:—"That the capital of the company be increased to £500,000 by the creation of 250,000 new shares of £1 each."

The Paper Shortage.

NEWSPRINT paper cannot be landed in Australia under £90 per ton (duty paid), states the *Sydney Morning Herald*, of April 23. When this rate becomes fully effective upon the expiry of existing contracts, Australian newspapers will be paying £4,300,000 more per year for their paper than in pre-war days.

Cardboard Wanted.

BECAUSE the Melbourne Tramway Board cannot obtain cardboard for the manufacture of trip slips, it has deferred the introduction of penny sections at the suburban ends of its cable lines for some months. The Board has been endeavouring to procure supplies of the special cardboard required, but owing to the recent shipping strikes this cannot be done yet.

Paper Mill Employees.

MR. S. ROBERTS, general secretary of the Australian Paper Mill Employees Union, writes that the same increased rates of pay as were recently voluntarily granted by the Commonwealth Board Mills, Limited, to its employees, now apply to all workers in the industry, the other firms having agreed to grant the increases as a result of negotiations with the union. The Australian Paper Mills Company is also subscribing to a benefit society and pension and unemployment funds for the benefit of employees.

British Patent Perforated Paper Co.

AT a meeting of the Balmain N.S.W. Council, a letter was read from the British Patent Perforated Paper Company's representative, directing attention to their application for permission to erect a factory on a site in the proposed residential area. It was pointed out that only clean paper cuttings was the refuse from the factory, which was at present carried on in Hamilton Street, City. A paragraph was added to the effect that the Council could not hope to prevent these water frontages being utilised, because under the new Federal tariff the progress of Sydney would be so great in the immediate future, that factories would certainly be established on them, some of them perhaps of a noxious character compared with that of the applicants. It was resolved to defer consideration of the matter until a reply was received from the Department to the application for the district to be proclaimed a residential area.

Forestry Investigations.

THE New South Wales Government has appointed a Committee to carry on forest research work. The general direction of the inquiries and tests is to be the determination of the pulping and paper-making qualities of indigenous woods and material; to find by distillation the tar, oil, gas, and the other properties of indigenous woods; and the investigation of starch, spirit, and other values in forest products, the chemical properties of gums, resins, and saps,

and the fibre values of forest material. It is of interest to note as one of the results of forest research that the paper school of the University of Grenoble has conducted an investigation into the possible utilisation of Australian eucalyptus for paper making. Immature trees of *E. globulus* were used with very favourable results, and the experts there believe that the immature eucalyptus offer a good material for the establishment of a paper industry in Australia.

A Compensation Claim.

IN the District Court, before Judge Scholes, Aileen Teresa Forrester, widow, Gore Hill, claimed £500 compensation, less £2 a week already paid, from the Cumberland Paper Board Mills, Ltd., on behalf of herself and three children. In her statement of claim applicant set out that her husband, Charles Forrester, who was employed as a carpenter at the company's factory at Longueville, fell from a height at which he was working on July 8, 1918. This, it was alleged, caused a clot of blood to form on the brain. He died on January 27, 1920. Notice of the accident was not served on respondent, who, either the first or second week after the accident, voluntarily paid the first weekly instalment of £2. The payments continued until about the end of September. Respondent denied liability. The only accident that ever occurred to deceased was that on July 8, 1918, in respect of which respondent had paid eight weeks' compensation, and in regard to which no notice of claim was made by deceased. Decision was reserved.

A Serious Insinuation.

IT is not likely that either the Federal or the Victorian Government will repeat in a hurry the experiment of sending an official abroad to purchase supplies of paper that can be manufactured in Australia (says the *Melbourne Age*). Electors, as well as manufacturers, are apt to be pained by such a proceeding, and to remember it. The Federal Government, locking the stable door after the horse had bolted, ordered an inquiry into the proceeding. The inquiry was held. The finding is in the possession of the Federal Government. For some season or other the Federal Government has not published fully that finding, and manufacturers and others are curious to know why. The simplest explanation that the Government can offer, it is suggested, is to publish the report. Meantime State Government circles are interested in the statement made by Mr. Martyn (vice-president of the Victorian Chamber of Manufactures) at the annual meeting of the Associated Chambers of Manufactures at Adelaide, to the effect that he had asked a Victorian Government official what was the margin of preference for Australian goods, and the official replied, "That depends on what I am going to get out of it." The manufacturer, Mr. Martyn said, "refused the bribe, and the order was placed outside Australia at a higher cost." Questioned as to whether he proposed to order an inquiry into so serious a charge, the Premier (Mr. Lawson) said that he was inviting Mr. Martyn to say whether he had been correctly reported, and, if so, to furnish the Government with more definite information as to the official and the circumstances referred to.

INCREASE IN PRICES OF CHINA CLAY.

THE *China Clay Trade Review* says that to meet increased cost of labour, coal, and other materials, the china clay producers have agreed on an increase of 12½ per cent. on the prices of all goods of china clay, for the six months from June 30 to December 31, exclusive of the 1s. 6d. extra railway carriage which will continue to be added to the prices f.o.b. Fowey.

CANADA'S PULP AND PAPER INDUSTRY.

It would take 344 years to exhaust the Canadian pulp wood limits at current rate of consumption, says the Montreal correspondent of *The Wall Street Journal*, if the estimate of the Dominion Commission of Conservation be reasonably accurate. The limits contain at least 1,033,000,000 cords, a third in Quebec Province.

Annual cut rose from 482,000 cords in 1908 to 2,104,000 in 1917. The industry of manufacturing wood pulp and newsprint ranks third in consequence. Over 250,000,000 dollars are invested in it. This includes large sums of liquid capital. Upward of 100,000,000 dollars of the total visible capital is within the great Crown Province of Quebec, claimant of platinite privileges. Neither axe nor transport has touched more than the forest's edge of this undeveloped wealth. Aeroplane fire patrol has perhaps approached nearest to a survey of capacity contents.

A manufacturer told a representative of *The Wall Street Journal* it has always been the policy of the Dominion both to conserve these resources and to encourage the manufacture of wood pulp and newsprint as a basic Canadian industry. Therefore for more than ten years exports of pulp and wood from Quebec Crown lands have been prohibited. Exports from free lands have not been prohibited, but they have not been stimulated.

AMERICA'S DEPLETED RESOURCES.

With the depletion of American pulp wood resources, and the enormous increase in American consumption of newsprint, now supplied to 25,000 publications, a revolution has taken place in the economic and strategic condition of the industry in North America. Eleven years ago the United States could rely on her own paper mills for all her requirements, consumptive and export. She now buys from Canadian mills one-third of the newsprints she uses herself or resells. The United States took from Canada in the year ended March, 1920, 838,732 cords of pulp wood; in the 1919 year, 1,597,012 cords; and in the 1918 year, 1,002,127 cords. In the calendar year 1919 the United States imported, almost entirely from Canada, 180,383 tons of mechanically ground pulp, 387,000 tons of chemically treated pulp, and 12,556,000 cwt. of newsprint. In 1913 imports were 167,739 tons of mechanically ground pulp, 373,567 tons of chemically treated pulp, and but 4,464,000 cwt. of newsprint, or only a third of current imports need.

Exports of Canadian pulp wood to the American side in 1913 exceeded 1,000,000 cords, well above the figures for both 1920 and 1918. Car shortages and embargoes figured in the 1920 decrease. But with the large and growing capital investment in mill plant expansion, paramount importance has been not unnaturally always attached to the primary maintenance of the raw supplies of Canadian mills as well as the protection of the manufactured output.

Nor has it been passed over without note that, whereas in 1913 the United States exported but 395,519 cwt. of wood pulp and 1,147,194 cwt. of newsprint. American 1919 exports were 715,000 cwt. of wood pulp and 2,205,898 cwt. of newsprint.

CANADA'S INCREASING OUTPUT.

Canada is rapidly increasing her newsprint output. In the first three months of 1920 this totalled 371,745 tons against but 680,847 tons for the whole year 1917. Meanwhile she says to the publishers: "Patience, kind sirs. How can each of six large gentlemen expect enough pie with but three slices to go round?" After a while the Canadian pie oven will be large enough for even the American advertiser and the soporific crudities of the Sunday supplement.

Now car shortage has been placed under relief agreement. "Collect" freight bills on all exports of pulp wood, pulp and newsprint are the order on the Canadian railways.

Pourparlers and rationing paroles d'honneur have replaced threats of coal embargoes and other foolish sayings and doings. It is as obvious to Canada that national as well as world economics call for the manufacture of newsprint on the side of the St. Lawrence where the pulp wood tree grows, as that the Mississippi levees might not be a bad locality for the world's largest cotton mills.

TWENTY-SEVEN NEW MILLS FOR CANADA AND U.S.A.

THE following list of new mills which will be built within the next two years appeared in the *Paper Trade*.

O. B. Andrews Paper Mill Co., Chattanooga, Tenn., test board; Apel Paper Manufacturing Co., New Orleans, La., newsprint; Brockville Paper Manufacturing Co., Ontario, paper; Canadian Box Board Co., Toronto, box board; Castanea Paper Co., Lockhaven, Pa., book; Chillicothe, O., Paper Co., book; Cincinnati Paper Board Co., Lockland, O., board; Clark Bros., Bear River, Nova Scotia, sulphate; Crown-Williamette Paper Co., West Lynn, Ore., newsprint; George W. Diamond, Depere, Wis., board; Eagle Paper Box Co., Toledo, O., board; Fort Howard Pulp and Paper Co., Green Bay, Wis., tissue; Great Lakes Pulp and Paper Co., Port Arthur, Ontario, newsprint; M. G. Henry, P. O. Box 1538, Tacoma, Wash., paper; Hoskin Morainville Paper Co., Menominee, Mich., paper; International Paper Co., Three Rivers, Quebec, newsprint; McGillion-Asimith Co., Menasha, Wis., tissue; Manistique, Mich., Pulp and Paper Co., paper; Onondaga Paper Co., Stevens Point, Wis., lightweight specialties; Peshtigo, Mich., Pulp and Paper Co., tissue; Price Bros. and Co., Ltd., Sagenay, Quebec, newsprint; Pride Pulp and Paper Co., Tomahawk, Wis., catalogue paper; Red River Paper Mills, Ltd., Winnipeg, paper; Sweet Bros., Phoenix, N.Y., specialties; Spalding Logging Co., Salem, Ore., newsprint; Springles Mills, York, Pa., board; Washington Pulp and Paper Corporation, Port Angeles, Wash., paper.

Apart from these new mills others are increasing production by the installation of new machines. New book machines, for instance, will be installed within the next two years having a daily capacity of about 500 tons. The following book mills are among those which will install new machines: Bergstrom Paper Co., Neenah, Wis., 1; Castanea Paper Co., Lockhaven, Pa., 4; Chillicothe, O., Paper Co., 1; Crocker Burbank and Co., Fitchburg, Mass., 1; Fitchburg, Mass., Paper Co., 1; Hoskin Morainville Paper Co., Menominee, Mich., 1; International Paper Co., 1; Kimberley-Clark, Appleton, Wis., 2; Mead Pulp and Paper Co., Chillicothe, O., 2; Oxford Paper Co., Rumford, Me., 1; Provincial Paper Mills Co., Mille Roche, Ontario, 3; S. D. Warren Co., Cumberland Mills, Me., 1.

Twenty-seven newsprint machines will be installed in the United States and Canada within the next two years. These new machines will have a capacity of more than 1,500 tons daily. A complete list of the companies which will install these new machines, as shown by the facts compiled, is as follows:--Abitibi Pulp and Paper Co., Ltd., 3; Consolidated Water Power and Paper Co., 1; Crown-Williamette Paper Co., 1; Cushman Paper Co., 1; Escanaba, Mich., Pulp and Paper Co., 2; Great Lakes Paper Co., (Port Arthur), 2; International Paper Co. (Three Rivers), 4; Laurentide Co., 2; Manistique, Mich., Pulp and Paper Co., 1; Menominee Pulp and Paper Co., 1; Ontario Paper Co., 1; Price Bros. and Co., 5; Spanish River Pulp and Paper Mills, 2; Washington Pulp and Paper Co., 1.

In addition to these new machines, there are others not listed, making board and other grades of paper. Besides there is the vast amount of equipment of all kinds for pulp and paper mills which is needed to speed up production and to replace old equipment, so that the mills can run at fuller capacity. Every machine shop which makes paper mill equipment is busy.

THE WOOD PULP MARKETS

CHEMICAL.

LONDON.—The market remains difficult and a tendency to hold off buying is still prevalent. There have been sales of easy bleaching at £62 to £63 and of strong sulphite at £52 to £55. There have been transactions in London for Canadian bleached sulphite for France at about £85. The French are also receiving Canadian bleached sulphite through London agents at somewhat lower figures.

MECHANICAL.

LONDON.—The shortage of mechanical pulp is still very marked and such moist pulp as is available has found ready buyers at £8 17s. 6d. to £19 c.i.f., and dry has been delivered during the month at £36 10s. to £37. The general shortage of mechanical pulp indicates firmness for a considerable time ahead.

CHEMICAL.

MANCHESTER.—There is very little change in regard to price, and we cannot hear of a considerable amount of business conducted during the month. The market remains firm, but buyers are holding aloof and opinions differ as to what may be the fate of mills hoping for the paper to turn in buyers' favour.

MECHANICAL.

MANCHESTER. The news mills are active buyers when the opportunity occurs. The deliveries have been quite good, and there is a report that a very big order has been placed for Canadian wood pulp at what may be termed a good price.

CHEMICAL.

NEW YORK.—A strong demand for chemical pulp continues to be experienced, but during the early part of last month all grades were very scarce, notwithstanding the efforts of domestic mills to cope with orders. Shipments from abroad were so light that they had little or no effect upon the market and importers did not hold out any hope of any increase in the supplies from Scandinavia for the present, especially in view of the European demand.

MECHANICAL.

NEW YORK.—The demand for mechanical pulp continues to be in excess of all previous experience, and paper manufacturers are generally unable to obtain sufficient pulp to meet their requirements. Weather conditions are said to have been more favourable for grinding operations, but transport difficulties still exercise an influence on supplies. Some authorities are of the opinion that the present scarcity is likely to be accentuated in the near future.

CHEMICAL.

GOTHENBURG.—Latest reports are to the effect that the market has undergone no change, prices being still firm. So far as this year's products of sulphite pulp is concerned, there remains little that is not disposed of. It is reported here that something like 300,000 tons of chemical pulp have been sold for delivery next year, and that large contracts have been made with British and Continental consumers for delivery next year and 1922. Easy bleaching is quoted up to krs. 1,150, strong about krs. 920, and kraft krs. 725 and upwards.

MECHANICAL.

GOTHENBURG.—An extremely brisk demand is being experienced for mechanical pulp and numerous sales have been effected for delivery well forward. Moist mechanical is quoted at figures ranging around krs. 315. Dry mechanical meets with but a moderate demand at prices up to krs. 700.

CHEMICAL.

CHRISTIANIA.—A firm tone characterises the chemical pulp market and prices continue to advance steadily. The quotations are approximately as follows: Bleaching sulphite, krs. 1,625; easy bleaching, krs. 1,220; strong, krs. 1,000; and kraft, krs. 860.

MECHANICAL.

CHRISTIANIA.—The general situation in the mechanical market has undergone no change, but may be described as fairly quiet. Several sales of considerable volume have been made for delivery next year and prices up to about krs. 300 f.o.b. Dry mechanical is fetching about krs. 675.

SUGGESTED MANUFACTURE OF WOOD PULP IN ARGENTINA.

The Buenos Ayres correspondent of the *Financier* writes:—“The utilisation of the forestal riches of Misiones Territory, Argentina, for the manufacture of paper pulp is a suggestion that has met with favour among those interested in developing this industry in the country. Adequate means of water transportation is one of the especial advantages emphasised. This territory, containing about 11,700 square miles, is in the extreme north-west of Argentina, lying between the rivers Parana and Uruguay, which, in that region, average about 50 miles apart. Since the Parana is navigable for large steamers, water communication can be maintained with Buenos Ayres, Monte Video and other ports. Misiones is tropical and heavily wooded, more than 700 varieties of trees having been counted; among these is an abundant tree, called caraguatazol, said to be very well

suited for paper pulp. Almost all of Argentina's supply of paper is received from other countries, and in proportion to the population there is a considerable consumption of paper and paper products. Several local paper mills import pulp and waste products to a certain extent, however. The following figures give the importations of pulp and of the rougher papers for the six months' period ending June 30, 1919: Wood pulp, 7,050 gross tons; news paper, 17,745 tons; wrapping paper, 942 tons; paste-board, 2,716 tons; book paper, 3,415 tons. Although the Territory of Misiones is sparsely settled, it is one of the sections to which immigrants are now turning. A holding, containing 416,800 acres, covered with heavy forests with an abundance of Araucanian pines 66 ft. high, was recently offered for sale at about 2 dollars per acre.”

BOARD OF TRADE RETURNS OF IMPORTS OF PAPER AND PAPER-MAKING MATERIALS FOR THE MONTHS OF MAY, 1913, 1919 & 1920.

								QUANTITIES.			VALUES.		
								1913.	1919.	1920.	1913.	1919.	1920.
Imports of Paper—FOR PRINTING OR WRITING:											£	£	£
On reels.	From Sweden	..	..	..	..	..	..	44,803	29,804	—	105,643	163,621	—
	“ Norway	..	..	..	..	..	..	85,509	10,197	—	205,587	149,915	—
	“ Germany	..	..	..	..	..	..	12,038	—	—	53,971	—	—
	“ United States of America	..	..	..	..	..	..	8,941	6,676	—	8,126	18,257	—
	“ Newfoundland	..	..	..	..	..	..	51,400	5,680	—	62,142	207,228	—
	“ Other Countries	..	..	..	..	..	..	9,936	15,662	—	59,600	43,727	—
Total								212,627	68,019	—	495,129	582,748	—
Not on reels.	From Sweden	..	..	..	..	..	..	10,271	606	—	45,249	17,581	—
	“ Norway	..	..	..	..	..	..	31,710	7,697	—	80,222	165,986	—
	“ Germany	..	..	..	..	..	..	22,462	—	—	118,256	—	—
	“ Belgium	..	..	..	..	..	..	9,826	1,472	—	37,652	8,540	—
	“ United States of America	..	..	..	..	..	..	3,354	1,982	—	29,673	53,197	—
	“ Other Countries	..	..	..	..	..	..	2,998	962	—	45,737	35,052	—
Total								80,621	12,719	—	365,789	280,356	—
PAPER, PRINTED:													
Hangings	From Germany	..	..	..	..	..	..	3,836	—	—	44,306	—	—
	“ Belgium	..	..	..	..	..	..	956	—	—	18,232	—	—
	“ Other Countries	..	..	..	..	..	..	192	69	—	8,901	2,919	—
Total								4,984	69	—	71,439	2,919	—
Other Printed or Coated Papers	From Germany	..	..	..	..	..	..	5,029	—	—	51,846	—	—
	“ Belgium	..	..	..	..	..	..	2,112	901	—	27,234	30,800	—
	“ France	..	..	..	..	..	..	409	49	—	9,121	2,029	—
	“ United States of America	..	..	..	..	..	..	431	269	—	12,550	13,764	—
	“ Other Countries	..	..	..	..	..	..	260	357	—	4,495	10,201	—
	Total .. .. .	..	..	..	..	..	..	8,241	1,576	—	108,546	56,797	—
Paper: Printing, not coated, and Writing Paper in Large Sheets:													
From	Russia	..	..	..	..	..	..	—	—	38,867	—	—	88,020
	Sweden	..	..	..	..	..	..	—	—	33,304	—	—	82,933
	Norway	..	..	..	..	..	..	—	—	16,086	—	—	47,576
	Germany	..	..	..	..	..	..	—	—	757	—	—	3,574
	Belgium	..	..	..	..	..	..	—	—	5,426	—	—	14,529
	United States of America	..	..	..	..	..	..	—	—	74,215	—	—	197,294
From	Newfoundland	..	..	..	..	..	..	—	—	95,603	—	—	237,296
	Other Countries	..	..	..	..	..	..	—	—	—	—	—	—
Total								—	—	204,258	—	—	671,222
Packing and Wrapping, including Tissue Paper:													
From	Russia	..	..	..	..	..	..	20,889	398	64,442	9,733	848	146,159
	Sweden	..	..	..	..	..	..	113,743	37,755	160,002	71,780	91,866	150,660
	Norway	..	..	..	..	..	..	81,817	34,396	91,987	48,548	83,851	283,626
	Germany	..	..	..	..	..	..	67,916	—	23,386	50,490	—	76,719
	Belgium	..	..	..	..	..	..	23,511	2,778	12,943	19,510	6,269	47,447
	Other Countries	..	..	..	..	..	..	20,149	7,928	45,073	18,396	31,760	148,037
Total								328,025	83,255	397,833	224,466	214,594	1,152,648
Coated Papers.	From Germany	..	..	..	..	..	..	—	—	3,849	—	—	16,796
	“ Belgium	..	..	..	..	..	..	—	—	5,012	—	—	26,619
	“ France	..	..	..	..	..	..	—	—	1,631	—	—	9,379
	“ United States of America	..	..	..	..	..	..	—	—	240	—	—	3,577
	“ Other Countries	..	..	..	..	..	..	—	—	6,152	—	—	18,698
	Total .. .. .	..	..	..	..	..	..	—	—	16,884	—	—	75,069
STATIONERY													
MILLBOARD, LEATHER BOARD, CARDBOARD, AND PASTERBOARD								—	—	3,861	—	—	20,271
STRAWBOARD								115,204	80,093	143,518	57,612	124,829	255,433
OTHER SORTS								283,165	200,266	632,827	80,349	172,184	598,227
Total								13,651	4,805	41,714	40,106	57,490	207,775
Total Imports of Paper and Cardboard								1,046,518	450,802	1,500,895	626,066	728,971	2,980,645

IF YOU ARE BUYING PAPER

COMMUNICATE WITH—

PARSONS TRADING COMPANY

HEAD OFFICE:

**Whitehall Building,
17, Battery Place, New York.**

CHIEF OFFICES FOR EUROPE

**Temple Bar House, 23/28, Fleet St.,
London, E.C.**

OTHER OFFICES:

**Sydney, Melbourne, Wellington,
Bombay, Adelaide, Stockholm,
Havana, Mexico City, Buenos Aires,
and Selling Representatives through-
out Latin America and the Far East.**

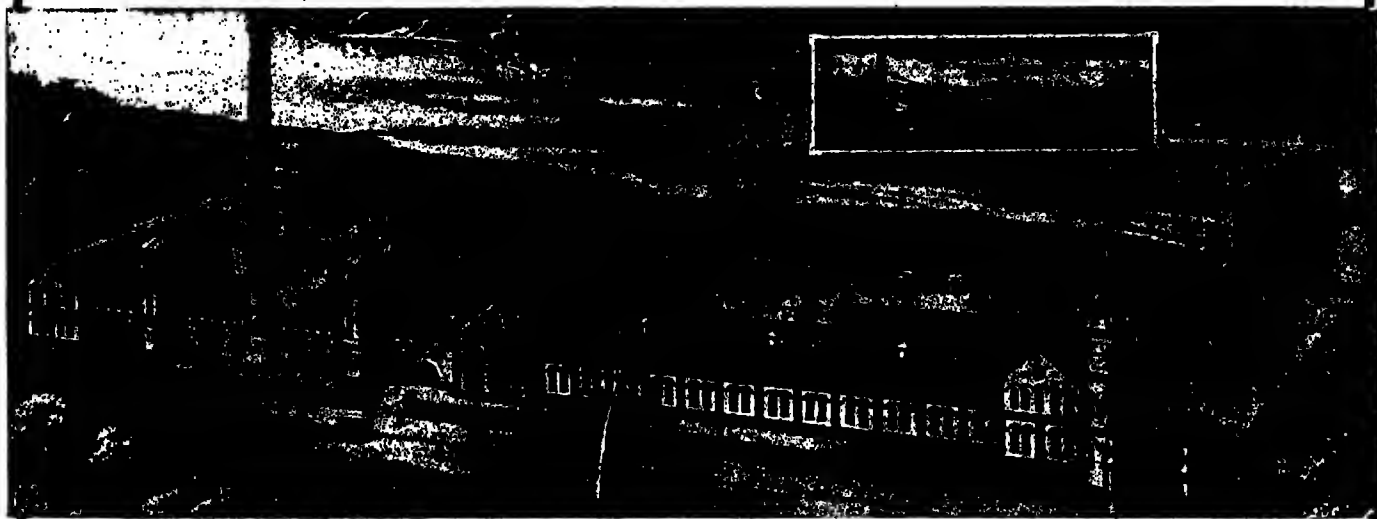
CABLE ADDRESS OF ALL OFFICES: "PARTRACOM."

Telegram: "Pergamyn, Drammen."

Aktieselskabet

PHÖNIX PAPIRFABRIK

DRAMMEN, NORWAY.



SPECIALITIES { **Thin Glazed and Unglazed Greaseproof
Manifold Papers. Bankpost.**

Board of Trade Returns of Imports of Paper and Paper-Making Materials for the Months of May, 1913, 1919 & 1920 — continued.

							QUANTITIES.			VALUES.		
							1913.	1919.	1920.	1913.	1919.	1920.
Imports of Paper-making Materials :										£	£	£
PULP OF WOOD : Chemical : Dry, Bleached :												
From Russia ..	..	..	..	..	..	tons	400	—	—	3,500	—	—
„ Sweden ..	..	..	..	..	..	..	101	111	19	1,067	4,340	805
„ Norway ..	..	..	..	..	..	..	1,017	779	1,408	10,987	31,084	65,080
„ Germany ..	..	..	..	..	..	..	45	—	65	503	—	2,850
„ Other Countries ..	..	..	..	..	..	..	120	217	1,348	1,316	7,731	81,360
Total ..	..	..	..	..	..	..	1,683	1,107	2,840	17,373	43,155	150,095
Chemical : Dry, Unbleached :												
From Russia ..	..	..	..	..	..	tons	5,141	—	3,927	41,676	—	141,174
„ Sweden ..	..	..	..	..	..	..	34,008	12,442	35,000	275,064	305,812	1,379,418
„ Norway ..	..	..	..	..	..	..	3,229	3,121	8,025	27,913	80,999	332,675
„ Germany ..	..	..	..	..	..	..	2,921	—	480	22,262	—	22,211
„ Other Countries ..	..	..	..	..	..	..	467	1,983	3,786	3,854	59,190	194,594
Total ..	..	..	..	..	..	..	45,766	17,546	51,818	370,769	446,001	2,070,072
Total of Chemical Dry Pulp of Wood ..							47,449	18,653	54,658	388,142	480,156	2,220,167
Chemical : Wet ..							2,051	397	29	6,458	9,111	580
Total of Chemical Pulp of Wood ..							49,500	19,050	54,687	395,600	498,267	2,220,747
Mechanical, Dry ..							467	3,555	3,165	2,131	68,037	94,360
Mechanical, Wet :												
From Sweden ..	..	..	..	..	..	tons	11,167	7,570	4,745	31,020	64,725	56,790
„ Norway ..	..	..	..	..	..	..	20,157	46,093	32,615	44,914	384,073	464,249
„ Canada ..	..	..	..	..	..	..	17,353	—	—	39,973	—	—
„ Other Countries ..	..	..	..	..	..	..	944	—	923	2,650	—	13,073
Total ..	..	..	..	..	..	..	49,621	53,663	38,283	118,557	448,798	534,112
Total of Mechanical Pulp of Wood ..							50,088	57,218	41,448	120,688	516,835	628,478
Total of Pulp of Wood ..							99,588	76,268	96,135	516,288	1,015,102	2,849,225
ESPARTO, AND OTHER VEGETABLE FIBRES, including WASTE :												
From Spain ..	..	..	..	..	..	tons	3,694	5,745	5,631	17,553	75,017	112,306
„ Algeria ..	..	..	..	..	..	..	12,709	—	6,087	43,575	—	104,179
„ Other Countries ..	..	..	..	..	..	..	5,468	6,382	7,966	18,000	75,010	154,498
Total ..	..	..	..	..	..	..	—	12,127	19,684	79,128	150,927	370,983
LINEN and COTTON RAGS ..							451	1,270	—	32,998	13,712	40,733
PAPER-MAKING MATERIALS, not elsewhere specified ..							120	705	—	12,063	2,243	18,463
Total Values of Paper-making Materials ..							—	—	—	640,477	1,181,984	3,270,404
Imports of Chemicals : BLEACHING MATERIALS ..							12,709	130	2,691	3,084	515	7,159
IRON PYRITES (including Cupreous Pyrites) ..							54,364	33,626	68,112	89,744	97,523	226,406
ROSIN ..							104,578	99,116	43,401	112,578	168,340	109,381
GLUE, SIZE, and GELATINE ..							21,718	3,998	10,521	42,832	29,700	75,747

CHINA CLAY WORKERS' WAGES.

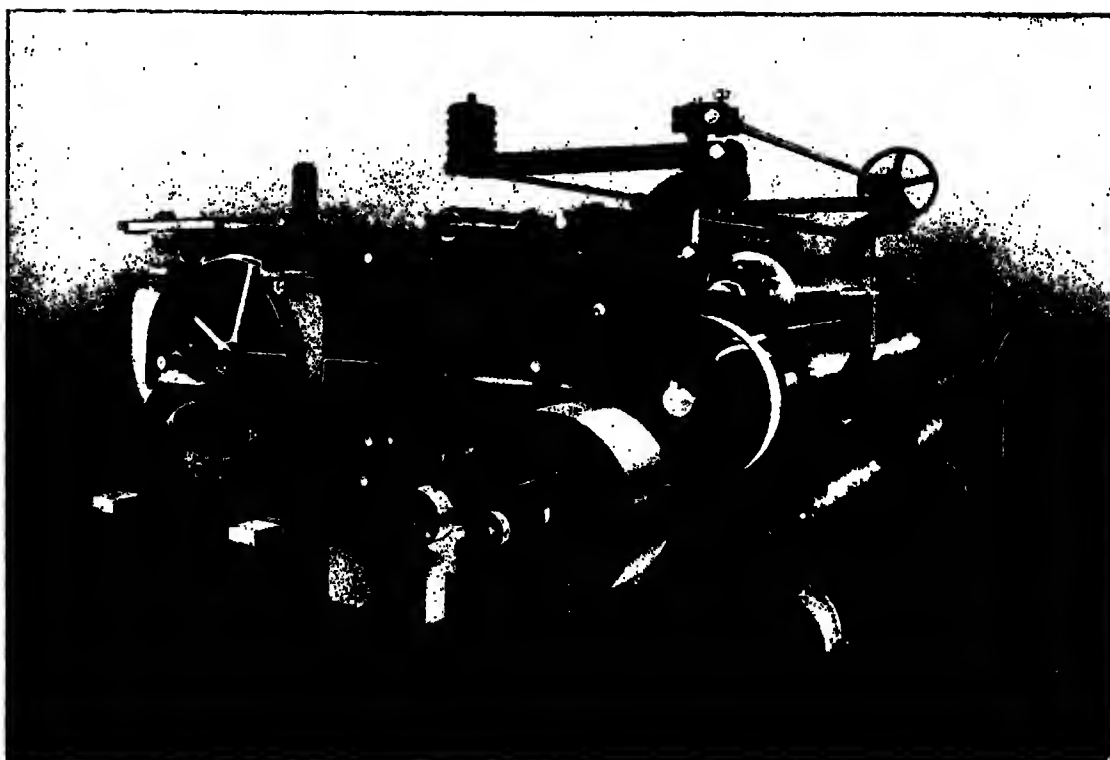
THE arrangement entered into by the China Clay Employers' Federation through the Joint Standing Industrial Council of the industry in September last year for an increase of 2d. to 1s. 3d. per hour for day men comes to an end at the end of this month, our contemporary also states. The Workers' Union has made an application for a further

increase of 4d. per hour, which has been considered by the Federation and instructions given to the representatives on the Joint Industrial Council as to the attitude they should take.

The employers at a Joint Industrial Council made a counter offer to Workers' Union demand for 4d. per hour increase, which the men's representatives decided to refer to the men to decide if they would accept or go to arbitration.



BOVING & Co. Ltd.



PULP WET MACHINE WITH CYLINDER WIRE.

We investigate and report on pulp mill developments in any part of the world.

We design, equip, construct and start up complete mills for sulphite, sulphate or mechanical pulp.

Manufacturers also of complete papermaking plant.

Head Office:

**56, Kingsway,
London, W.C.2.**

Branches and Agencies in
MANCHESTER, FRANCE
SWEDEN, AUSTRALASIA
JAPAN, S. AMERICA
CANADA, — ETC



WORKS: STOKE-ON-TRENT, STAFFS.

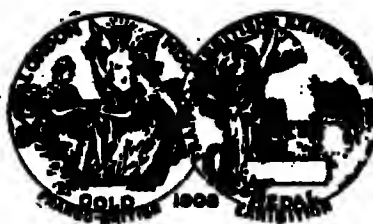


BOARD OF TRADE RETURNS OF EXPORTS OF PAPER AND PAPER-MAKING MATERIALS FOR THE MONTHS OF MAY, 1913, 1919 & 1920.

							QUANTITIES.			VALUES.		
							1913.	1919.	1920.	1913.	1919.	1920.
Exports of British Paper :										£	£	£
Printing not coated.	To France..	..	..	..	..	cwts.	10,701	5,606	4,575	13,589	23,523	18,214
	.. United States of America	..	..	..	..	"	3,035	343	410	5,503	2,856	3,543
	.. Other Foreign Countries	..	..	..	..	"	39,171	15,341	20,299	42,787	50,600	89,298
	.. British South Africa	..	..	..	..	"	11,786	1,180	6,907	12,081	7,028	27,352
	.. British India	..	..	..	..	"	27,156	1,141	25,148	25,231	5,464	31,028
	.. †Straits Settlements	..	..	..	..	"	1,170	493	858	1,315	1,932	4,090
	.. Ceylon	..	..	..	..	"	1,788	100	1,878	1,739	360	7,032
	.. Australia	..	..	..	..	"	53,465	1,185	7,855	40,110	5,380	27,412
	.. New Zealand	..	..	..	..	"	9,442	107	3,300	7,597	388	10,893
	.. Canada	..	..	..	..	"	13,262	36	115	16,250	246	826
	.. Other British Possessions	..	..	..	..	"	2,553	1,828	4,011	2,326	6,289	14,026
Total ..							173,529	27,960	75,356	168,537	103,875	286,314
Writing paper in large sheets	To France	..	..	..	..	cwts.	314	2,764	1,307	1,571	15,741	7,044
	.. United States of America	..	..	..	..	"	215	60	68	935	778	896
	.. Other Foreign Countries	..	..	..	..	"	3,164	2,744	2,879	10,545	22,122	19,026
	.. British South Africa	..	..	..	..	"	2,158	236	667	4,655	3,216	4,539
	.. British India	..	..	..	..	"	2,541	1,785	6,968	6,078	11,882	35,105
	.. †Straits Settlements	..	..	..	..	"	466	170	218	1,225	1,271	1,356
	.. Ceylon	..	..	..	..	"	217	249	405	479	1,004	2,275
	.. Australia	..	..	..	..	"	5,887	1,090	2,978	11,013	6,714	16,055
	.. New Zealand	..	..	..	..	"	1,270	127	1,244	2,391	786	6,596
	.. Canada	..	..	..	..	"	218	5	14	482	40	142
	.. Other British Possessions	..	..	..	..	"	616	697	986	1,553	5,023	8,339
Total ..							17,006	9,927	17,734	40,930	68,637	101,373
PACKING AND WRAPPING ..									40,651			76,826
TISSUE PAPER ..							60,161	6,031	945	30,964	18,500	12,537
COATED PAPERS: Printed and Embossed Paper Hangings ..							8,429	5,996	14,155	21,354	40,371	76,005
Other Sorts, except Waterproof Wrappings, Roofing Paper, and Sensitised Photographic Paper ..							2,568	1,502	2,371	11,505	21,953	29,801
ROOFING PAPER, Tarred and other ..							—	—	—	—	—	—
STATIONERY: Envelopes, not including Box Stationery ..							3,116	1,455	5,882	7,453	13,750	38,049
Other sorts ..							—	—	13,309	—	—	168,829
Total ..							3,116	1,455	19,191	7,453	13,750	206,878
PAPER BAGS ..							5,018	1,153	3,743	5,532	6,049	14,697
BOXES and CARTONS of PAPER and CARDBOARD (including FOLDING BOXES) ..							4,868	909	940	8,432	6,445	6,942
MILLBOARD, STRAWBOARD, CARDBOARD, &c. ..							9,885	3,171	7,744	9,177	11,583	27,111
PLAYING CARDS ..							11,314 358	4,827 137	7,106 155	2,884	2,727	3,298
Other Manu- facturers of Paper not elsewhere specified.	To France	..	..	..	..	cwts.	544	302	272	3,443	1,740	1,404
	.. United States of America	..	..	..	..	"	191	102	137	951	2,904	2,032
	.. Other Foreign Countries	..	..	..	..	"	2,801	1,099	2,689	5,799	9,184	25,942
	.. British South Africa	..	..	..	..	"	872	305	904	1,449	2,286	5,905
	.. British East Indies	..	..	..	..	"	773	986	2,345	1,629	4,740	16,648
	.. Australia	..	..	..	..	"	1,021	367	873	1,759	1,789	5,424
	.. New Zealand	..	..	..	..	"	926	98	180	1,460	823	1,764
	.. Canada	..	..	..	..	"	298	41	110	886	435	1,078
Total ..							7,710	3,553	8,181	17,993	25,475	63,950
Total Exports of British-made Paper and Cardboard ..							298,648	62,094	191,166	324,759	319,365	905,732

† Including Federated Malay States and Labuan.
1920, now included in

‡ Included Notepaper and other kinds of paper for writing, prior to
"Stationery, other Sorts"—same group.



IMPORTANT

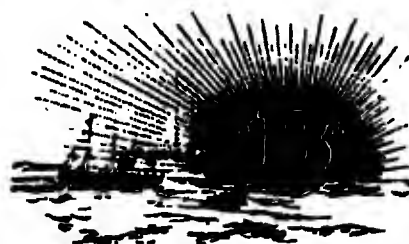
TO

Newspaper, Periodical and Magazine Proprietors,
Printers, Publishers, and all Users of Paper
throughout the World.

**BEFORE PLACING YOUR ORDERS APPLY TO US
FOR SAMPLES AND QUOTATIONS.**

W. V. Bowater & Sons,
Limited
*are Paper Makers, Agents, and
Wholesale and Export Paper Merchants.*

REGISTERED



TRADE MARK.

We specialise in "News," Glazed and Unglazed Coloured Printings
Machine Finished and Super-Calendered Printings, Coated and
Imitation Arts, Typewriting Papers, Art Covers, Cartridges, Writings,
M.G., Glazed and Unglazed Natures, Tissues, Sulphites, and Browns,
Cover Papers, Badami and Native Account Book Papers, and
Board of all descriptions and grades.

159, Queen Victoria Street, LONDON, E.C.4.

Cables: "SPARTOLUS," LONDON.
Codes: A B O (5th Edition), Western-Union and Western-Union 5-letter Edition, and Bentley's.

WAREHOUSES AND WHARVES—

BOWATER'S WHARF, Commercial Road,
Lambeth, S.E.; and Worship Street, E.

MORDEN PAPER WORKS—

MORDEN WHARF, Greenwich, LONDON, S.E.;
and at Carrick Street, GLASGOW.



OFFICES ABROAD—

NEW YORK: Woolworth Buildings.
CAIRO: 10, Chareh Tourguemane.
SHANGHAI: 9, Ningpo Road.
BOMBAY: Telephone Buildings, Home Street.
MADRAS: Post Box No. 237. And at
HONG KONG, SINGAPORE, PENANG and
Principal Ports throughout the World.

**BOARD OF TRADE RETURNS OF EXPORTS OF PAPER AND PAPER-MAKING MATERIALS
FOR THE MONTHS OF MAY, 1918, 1919 & 1920.—continued.**

		QUANTITIES.			VALUES.		
		1913.	1919.	1920.	1913.	1919.	1920.
Exports of Foreign and Colonial Paper and Boards :					£	£	£
FOR PRINTING OR WRITING: On reels	cwts.	1,744	---	---	980	---	---
Not on reels	"	8,148	594	---	6,380	2,492	---
PRINTED PAPER HANGINGS	"	79	29	---	817	682	---
OTHER PRINTED or COATED PAPERS (except SENSITISED PHOTOGRAPHIC PAPER)	"	96	5	---	1,186	49	---
PRINTING, not COATED, and WRITING PAPER in large sheets	"	---	---	1,433	---	---	4,693
PACKING and WRAPPING, including TISSUE PAPER	"	4,201	47	2,086	2,062	271	7,111
COATED PAPERS	"	---	---	11	---	---	603
STATIONERY	"	---	---	15	---	---	230
MILLBOARD, LEATHER BOARD, CARDBOARD and PASTRBOARD	"	127	---	309	314	---	769
STRAWBOARD	"	793	---	183	312	---	258
OTHER SORTS	"	1,564	49	1,072	6,376	945	17,090
Total Exports of Foreign and Colonial Paper and Cardboard		16,812	724	5,109	19,233	4,439	30,754
Exports, Foreign and Colonial, of :							
PULP OF WOOD: CHEMICAL: DRY	tons	970	---	---	7,841	---	---
LINEN AND COTTON RAGS	"	1,282	---	14	12,712	---	495
Total		---	---	---	20,553	---	495
OTHER ARTICLES	"	---	---	---	3,416	80	2,905
Total Value of Foreign and Colonial Paper-making Materials		---	---	---	23,969	80	3,400

GENERAL AND FOREIGN NEWS.

THE Czech Press Bureau reports that a big Czechoslovak paper combine is projected, to which will be affiliated the Ratiunan and Josefshütte Cellulose Factories and the Pilsen and Freiheit Paper Mills belonging to the Nensiedler A.-G., the Prague Paper Co., and the Czechoslovak undertakings of the Elbe Mills Combine at Arnan, Hollanbkan and Pribislavic.

THE *Frankfurter Zeitung* reports that conditions in the German paper industry at the beginning of 1920 were worse than they had previously been. The supplies of coal delivered to paper factories were more irregular, and cellulose and wood-pulp were harder to secure. Furthermore, rags and paper scrap were practically unobtainable. During the first week in February a meeting of publishers was held in Essen for the purpose of discussing the situation. The Chancellor of the Republic was present. In answer to the demands and complaints of the publishers, he stated that the paper factories were being furnished 67 per cent. of their normal requirements of coal. He said that the Government appreciated the importance of newspapers as a medium for preventing industrial disturbances. In order to prevent the exportation of printing paper from Germany, a new ordinance was put into effect prohibiting the shipment of paper from Germany except by special licence. It is reported elsewhere in the German press that no licences will be granted.

Good native paper mills exist, and some of them are heavily capitalised, but imports are bound to grow steadily. The geographical position of Mexico—next door to the United States—is educating her people very swiftly to know and to demand the good things of life. This is more true of Mexico than of any other Latin-American country, and the subjoined table indicates how rapidly this process

is going on. It would be a thousand pities (says the correspondent of *The Financier*) if British manufacturers did not realise that this market is fast ceasing to be a merely native market, and that it will soon become one where the best of goods will be demanded in plenty. According to a table giving the principal Mexican exports and imports to and from the U.S.A. during 1917, 1918, and 1919, the imports of newsprint were 11,083,650 lbs. (\$500,789), 4,500,550 lbs. (\$172,528), and 3,181,149 lbs. (\$161,764) respectively, and those of "other than newsprint" 4,707,231 lbs. (\$395,763), 1,240,992 lbs. (\$102,891), and 4,313,771 lbs. (\$409,710) respectively.

CANADIAN ENTERPRISES IN AUSTRALIA

THE Department of Overseas Trade has received from H.M. Senior Trade Commissioner in Australia information which indicates that great efforts are being made by Canadian manufacturers to strengthen and extend the footing that they have of recent years gained in the Australian market. Prominent Canadian business men have arrived in the Commonwealth bringing with them many tons of samples and have arranged an exhibition covering such varied lines as enamel ware, coppered and plated tinware, galvanised hollow ware, electrical goods, shingles, sidings, ceilings, metal lathing, tacks and nails, hand pumps, axes, cast iron hollow ware, paper bags, envelopes, waxed paper, toilet paper and tissues, leather goods, gloves, hats, boots, cotton clothing, cotton cordage and elastic webbing, jute, twine and bags, polishes, axe and other handles, house porch and verandah furniture, pianos, canoes and boat equipment, paints and varnishes. Nor have the advantages of reciprocal trade been overlooked, and high-class and attractive Australian products will, in turn, be offered to the Canadian consumer.

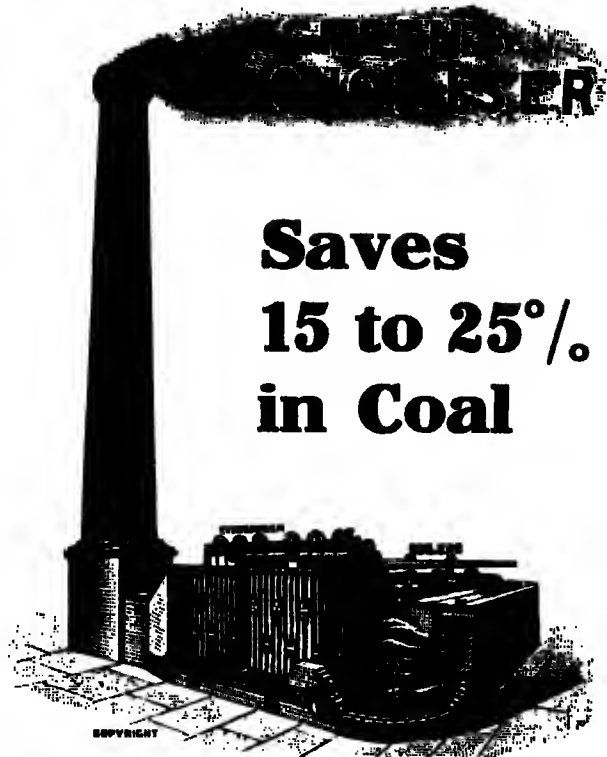
WOOD PULP PAPER AND BOARDS TIMBER

of every description
exported c.i.f. all principal
ports of the world.

KJELLBERG & HEDBERG

STOCKHOLM.

Cables: "Swedemill."



**Saves
15 to 25%
in Coal**

Write for Pamphlet WE to

E. GREEN & SON, LTD., WAKEFIELD.

ELECTRO BLEACH AND BY-PRODUCTS LTD.



Manufacturers of
Bleaching Powder,
35/37%.

Soda Crystals,
PURE CRUSHED.

Caustic Soda,
SOLID AND LIQUID.

"Vacuum" Salt,
DRIED AND UNDRIED.

Works and Office:-
MIDDLEWICH, CHESHIRE.

LEWIS CLEGG & SON,

Examiner Buildings, Strutt Street, MANCHESTER.

Telegraphic Address: "Conifer." Telephone No.: City 6585
Works: Stalybridge.

ULTRAMARINE BLUES

New Process of Silicate Cotton (Slagwool Covering)

Write for Estimates.

(Patent No. 13693).

LONSDALE BROS. LTD.,

Pump St. Works, Bank Top, BLACKBURN.

Boiler Covering Manufacturers and Contractors.

Specialities:

Solidified Slagwool Insulations. Engine Lubrication & Cylinder Castings.
Asbestos Coverings in all grades. Patent Removable Economiser Covers.
Magnesia, Sectional & Plastic Coverings. Flange & Valve Covers.
Telegrams: "PLASTIC, BLACKBURN." Telephone No. 625.

SWEDEN.

[FROM OUR OWN CORRESPONDENT.]

Stockholm, June 23, 1920.

BOTH sections of the pulp market continue to exhibit a firm tone, the demand being greatly in excess of supplies for deliveries within the next two or three months. As a matter of fact, there is very little sulphite pulp of this year's production which remains unsold, but large contracts have been entered into for delivery next year at prices below current figures, and some cases are reported where delivery is not to be made until 1922. Very much the same may be said of the mechanical pulp market, "Moist" being quickly snapped up at about krs. 315. There is, however, only a moderate demand for the "Dry" variety.

The Svenska Kullager A/B announces a net profit for 1919 of 11.2 million kroner, against 14.2 million in 1918. The dividend is reduced from 18 to 15 per cent.

Another reduced dividend is that paid by the Stora Kopparberg Company, viz., 15 per cent., as against 20 per cent. a year ago. The net surplus is 8.1 million kroner, as against 11.3 million kroner in 1918.

SVENSK.

NORWAY.

[FROM OUR OWN CORRESPONDENT.]

Christiania, June 25, 1920.

NOTWITHSTANDING the fact that the market for chemical pulp continues to exhibit a firm tone, there has been some falling off in briskness compared with last month. This, however, is attributed to the summer holidays. Sales have been effected at full prices, and in view of the business done for the remainder of the year and 1921 it is generally anticipated that prices will continue high, possibly rising during the ensuing autumn and winter.

With regard to mechanical pulp, conditions have been somewhat quiet, and the supplies for shipment for this year are exceedingly limited. Current prices for moist mechanical range around krs. 330, while "Dry" is quoted at krs. 735 and upwards.

Considerable perturbation has been caused among Norwegian paper manufacturers by the allegations of profiteering which have been made in certain sections of the English press. In contradiction some of the statements made, it is pointed out that owing to the enormous growth of the demand and the increase in the cost of all raw materials, as well as plant, machinery, wages and taxation, a position has been created in which practically little margin of profit remains. One of the great difficulties has been the scarcity of freightage, but this has now somewhat improved, and it is suggested that the easiest way to reduce prices of paper would be for Great Britain to make Norway a more liberal coal allowance at more reasonable prices and with less delay in delivery. The quality of the coal should also be improved. The point is emphasised that cheaper paper entirely depends upon cheaper, better and larger quantities of British coal.

VIKING.

FINLAND.

[FROM OUR OWN CORRESPONDENT.]

Helsingfors, June 21, 1920.

AN event of considerable interest to the Finnish pulp and paper industry has been the visit paid during this month by representatives of British newspapers to this

country. A well-organised tour has, I believe, been thoroughly enjoyed by the visitors, and I am told the hospitality of the Amalgamated Finnish Paper Industry has been very greatly appreciated. THE PAPER-MAKER will, no doubt, have something to say with regard to the visit, seeing that your Mr. H. G. Phillips was a member of the party.

Considerable improvement continues to mark the export trade in paper. Indications are not lacking that a return to more stable conditions will be made during next year.

You will already have received information that the Finnish Rikstad has called upon the Government to immediately adopt measures for the removal of the increased prices of paper which were introduced after March 1, the refusal of all unreasonable prices advance in the future, the prohibition of exports of paper until home requirements have been satisfied, and for the establishment of a State paper mill in which the Government would hold the majority of shares.

FINNE.

RUSSIA.

[FROM OUR OWN CORRESPONDENT.]

Petrograd, June 16, 1920.

THERE is little change or improvement to be recorded concerning the paper-making industry. Raw materials are very scarce, transport is practically at a standstill, and output is practically negligible. The scarcity of all kinds of paper is undoubtedly very serious and it is doubtful whether the situation will be any brighter for some time to come.

RUSS.

SEA-WEED FOR PAPER-MAKING.

THE Thames Paper Company, Limited, has carried out an experiment on the sea-weed that is to be found in the estuary of the Thames, and which is a fairly common type along the shores of this country. This was dealt with in the Company's laboratory, and the chemist's report is given below; from this it will be observed that the fibre content of this sea-weed is practically nil.

It is probable, however, that the type of sea-weed suitable for this purpose is somewhat different, for, as stated in various issues of *The Board of Trade Journal*, companies have been formed in Italy and Japan for the purpose of exploiting sea-weed in this way. In 1917 the South Australian Department of Chemistry published a Bulletin on the subject. As the possibility of utilising this raw material in the manufacture of paper is of great interest at the present time, further inquiries are being made into the question. The chemist's report referred to above is as under:—

Samples from the local foreshore have been carefully examined from the above standpoint:—

Water content, 73.50 per cent. (as received).

Bone dry weight, 26.50 per cent.

This latter was chiefly dirt and foreign matter, salt (sodium chloride and other halogens), and colloidal substances akin to gelatine. The amount of fibre was practically negligible and was extremely difficult to isolate on account of the "colloids." Cellulose was not worth estimation, and the sample was useless as a raw material for paper-making.

THE seventh meeting of the Wallpaper Sub-Committee (Trusts) of the Profiteering Act Department was held on the 15th ult., when the draft report was discussed.

BLANC FIXE

Pulp and Powder

**THE STOCKTON-ON-TEES CHEMICAL
WORKS LTD. STOCKTON-ON-TEES.**

Telephone—432 Stockton.

Telegrams—"Chemicals, Stockton."

A TEXT-BOOK OF PAPER-MAKING

By C. F. CROSS and E. J. BEVAN

Containing additional matter and in part re-written with collaboration of
J. F. BRIGGS

Demy 8vo., 540 pp., 17 Plates, 99 Illustrations. 30/- net.
Postage 1/-; Abroad 1/6.

FIFTH EDITION.

At the present time the manufacture of paper is of the utmost importance, and it is generally recognised as a "key" industry. The security and high cost of this commodity have directed a large and important body of investigators and manufacturers to concentrate their attention upon its rapid and more economical production.

A new edition of this well-known standard work therefore comes at a time when it is most needed, and is sure of a welcome by those who are anxious to keep their methods up to date.

The book deals especially with the processes and methods of manufacture, and the present edition is an exact reflection of the technical and scientific progress of the present day in cellulose research, for which these authors are justly famous.

The book will enable the student and others to acquire an intelligent grasp of the principles upon which scientific paper-making should be conducted.

It is unnecessary to emphasise the importance of carrying on the business of paper-making on thoroughly scientific lines, and in this direction the present volume forms an admirable guide that may truly be said to be indispensable to the up-to-date paper-maker and the necessarily larger body of paper consumers represented by the business houses engaged in the stationery trade.

CONTENTS.

Preface—List of Plates—Introduction—Cellulose—Physical Structure of Fibres—Scheme for the Diagnosis and Chemical Analysis of Plant Substances—An Account of the Chemical and Physical Characteristics of the Principal Raw Materials—Special Treatment of Various Fibres: Bolders, Bolding Processes, etc.—Bleaching—Heating—Sizing, Loading—The Colouring of Paper Pulp—Paper Machines: Hand-made Paper—Calendering, Cutting, etc.—Caustic Soda, Recovered Soda, etc.—The Qualities of Paper referred to the Structural and Chemical Characters of its Fibres—Paper Testing—General Chemical Analysis for Paper-makers—Site for Paper Mill: Water Supply, Water Purification, etc.—Special Manufactures—Statistics—Bibliography—Index.

E. & F. N. SPON, Ltd., 57, Haymarket, LONDON, S W 1

THOR THORESEN

LINE OF REGULAR STEAMERS
FROM EAST AND WEST NORWEGIAN PORTS TO WEST
COAST U.K. AND TO THE BALTIC AND VICE VERSA.

THOR THORESEN Jr. (U.K.) LD.
SHIPBROKERS, FORWARDING, INSURANCE AND COLLIERY AGENTS,

Telegrams: "Thorelsen, Manchester." **7, Brazenose Street, MANCHESTER.** Telephone: 8067 and 8068 City.

And at LONDON, CHRISTIANIA and PARIS.

SCANDINAVIAN

**EAST-AFRICA LINE TO RED
SEA, EAST AFRICA, MADAGASCAR
AND VICE VERSA. :: :: ::**

The Journals for reaching the Paper Trade
in all branches are:—

**THE PAPER-MAKER.
THE STATIONERY WORLD.
THE PAPER BOX AND BAG MAKER.**

Tariffs on application to the

**ADVERTISEMENT MANAGER,
47, Cannon Street, London, E.C.4.**

PHILLIPS' PAPER TRADE DIRECTORY OF THE WORLD.

A NEW EDITION IS
NOW ON SALE PRICE **£1 1s.**

THE STANDARD WORK FOR PAPERMAKERS
AND ALL INTERESTED IN THE PAPER TRADE.

47, Cannon Street, LONDON, E.C.4.

AMERICAN NEWS.

Proposed U.S. Commission.

REUTERS' Washington correspondent states that the House of Representatives on the 3rd ult. passed a resolution requesting the President to appoint a Commission to confer with the Canadian Government in regard to the cancellation of the restrictive orders on the exportation of wood-pulp from Canada to the United States. It is contemplated that this Commission, if appointed, should report to the President in December as to what action Congress should take to aid in obtaining a cancellation of the restrictive orders.

* * *

Printing Paper to be Admitted Free of Duty.

By a recent Act of Congress it is provided that printing paper, unsized, sized or glued, suitable for the printing of books and newspapers (but not for the covers or bindings), not specially provided for in the American tariff, is for a period of two years from the date of the Act—April 23, 1920—to be admitted into the United States free of duty when valued at not more than eight cents per lb., and to be subject to a duty of 12 per cent. *ad valorem* if the value is more than eight cents per lb. After the lapse of two years the provisions of tariff numbers 322 and 567, as amended, are to apply, and paper valued at not more than five cents per lb. will be duty free, whilst that of greater value will pay 12 per cent. *ad valorem*. It is expressly stated that paper commercially known as hand-made or machine hand-made paper, and also Japan paper and imitation Japan paper, by whatever name it may be known, is excluded from the provisions of the new Act.

* * *

Reported Shipments of Cotton Linters to England.

It is reported that part of the American Government's stock of linters, representing practically an accumulation of a year's cutting at £140 per ton, is gradually finding its way to New Orleans, La., for exportation to England for the paper trade here. It is stated that shipments have already been made from that port, and the U.S. Government's Agent is said to be devoting much energy with a view of effecting further exportations. Relative to the question of the production of hull fibre specially for the paper trade, the Memphis Hull Fibre Company is cutting all the seed it can get purely for this trade in England. The company is British owned and managed, it is understood, and the apparent success of this firm has caused no little consideration of this market among the prominent oil crushers in the South. It is known that two shipments of hull fibre have been made to Japan for a similar purpose, these involving lots of 200 and 250 tons for experimental purposes.

* * *

The Senate Committee and the Paper Shortage.

THE Senate Committee which has been investigating the shortage of newspaper in a report published finds the conditions which handicapped many American newspapers to be "more the result of artificial obstructions than natural laws." The present prices of newspaper are held to be excessive and unwarranted. The manufacturers are accused of "unjust and illegal discriminatory practices." In conclusion the committee recommends the Department of Justice to institute proceedings under the Sherman Anti-Trust Law against the paper manufacturers. Other recommendations in the committee's report are:—(1) The establishment of a Federal Newsprint Board to supervise manufacture and distribution should the Government efforts to maintain a reasonable price fail. (2) Amendments of the Food Control Act to penalise profiteering in newspaper. (3) Imposition of an Excise tax of 5d. on Sunday newspapers weighing more than 1.28 lb. a copy in order to limit such editions to 80 pages until

an adequate supply of paper can be obtained. (4) Vote of £20,000 for experiments for substitutes of pulp wood. (5) Reduction of parcels post rate on newspaper.

CANADIAN NEWS.

New Mills for Newfoundland.

New pulp and paper factories will be erected by the Sulphite Company at Glovertown, in Alexandrina Bay, Newfoundland. Wharves and storerooms will be built at the mouth of the Terra Nova river.

* * *

Another Pulp and Paper Concern.

Another new pulp and paper concern has made its appearance in the Great Eastern Pulp and Paper Co., Ltd., which controls 460 square miles, or approximately 300,000 acres of timber limits, in Gaspé county, Quebec, on the St. Lawrence river. Montreal and New York interests are behind the company.

* * *

Canada's Pulp and Paper Expansion.

MR. RODOLPHE LEMIEUX, speaking recently on Quebec's industrial expansion, said that great progress had been made in the pulp and paper industry, largely due to the action of the Provincial Government in prohibiting the exportation of the raw material, and so forcing the Americans to erect factories in the province for its manufacture.

* * *

Paper Making in British Columbia.

THE paper industry in the province is one of growing importance. Thousands of tons of newsprint and "kraft" papers are shipped annually from the big pulp and paper mills along the coast to foreign markets, and it is predicted that within a short period the province will be the centre of the world's pulp supply. Abundant water power is available from the hundreds of mountain lakes and waterfalls near the sea coast.

* * *

Publishers Urge Legislation.

AT the Canadian publishers' conference held at Ottawa recently, it was decided to appeal to the Federal Government for legislation requiring newspaper manufacturers unwilling to furnish supplies to supply a proportion for domestic requirements of newspaper at prices no higher than the current contract prices for export abroad. Representation was made to the Government that 25 per cent. of the Canadian newspapers were threatened with suspension owing to the refusal of certain manufacturers who have American contracts to furnish newspaper after July 1, although the newspapers were willing to pay the export price.

* * *

Need of Development of Coal Resources.

CONTENDING that "there is no menace to Canada's economic and general welfare at all comparable to the fact that she is so largely dependent upon a foreign country for her fuel needs," Mr. Arthur V. White, consulting engineer of the Commission of Conservation of Canada, strongly urges Canadian development of its own coal resources. In respect of quantity, quality, and accessibility for mining purposes, the Dominion, he declares, possesses coal deposits which compare favourably with those of the greatest coalmining countries of the world. She has nearly 1,000,000,000 tons of semi-anthracite coal, 315,000,000 tons of bituminous coal, and 10,000,000,000 tons of sub-bituminous coal and lignite. He refers with satisfaction to the serious effort now being made to develop the lignite and peat resources of the Dominion, but he points out that it would take 600 such plants as that which is being erected under the direction of the Council for Scientific Research for briquetting the lignites of the Prairie Provinces to replace our present coal importations from the States.

Special Prepaid Advertisements.

SITUATIONS VACANT, BUSINESSES WANTED or FOR DISPOSAL, MILLS WANTED or TO LET, MACHINERY, and MISCELLANEOUS are inserted at Six Shillings for twenty-four words or under; Two Shillings extra for every subsequent line or portion of a line.

LEGAL AND PARLIAMENTARY NOTICES, FINANCIAL ANNOUNCEMENTS, TENDERS, SALES BY AUCTION, &c.—2/6 per line.

CHEQUES and Post Office Orders to be crossed and made payable to S. C. PHILLIPS & Co.

Offices: 47, Cannon Street, London, E.C.
448 & 450, Produce Exchange, Manchester.

CARBONISING TISSUE.—Manufacturers of and dealers in Carbonising Tissue are requested to send samples and quotation to:—Carbonia Works, Deventer, Holland.

May—July.—688.

RECOVERY AND REMANUFACTURE OF WASTE PAPER BY JAMES STRACHAN, 128, 6d. Copies can be had from THE PAPER MAKER Office, 47, Cannon Street, London, E.C.4.

WANTED FOR JAPAN.—Coating Expert for White and Coloured Art Paper Department. 1 to 3 years agreement. Salary £70-80 monthly plus all expenses to and from Japan. Furnished house free. Excellent prospects for first-class man.—Reply Box No. 607, THE PAPER-MAKER Office, 47, Cannon Street, London, E.C.4. June-July.—697.

KOLLERGANGS.—Two for disposal, one 8ft. dia. bottom of pan and one 6ft. dia.; with stones and shafting, etc., complete and as new.—Can be seen at CHAS. VENABLES & Co., LTD., Taplow Paper Mills, near Maidenhead, Berks. July-Aug.—701

ROTARY CUTTER wanted, used to Rotary Cutting Machine. Apply with full particulars, experience, etc., to R. G. PHILLIPS, MILLS & Co., LTD., Bridge Wharf, Battersea, S.W.11 July—702.

RICE STARCH, PURE CRYSTALS, 2 tons for disposal, keen prices to clear.—Box No. 707, THE PAPER-MAKER Office, 47, Cannon St., E.C.4. July 707

BATTERSEA POLYTECHNIC, LONDON, S.W.11.

THE GOVERNING BODY invite applications for the appointment of Evening Lecturer in Paper Technology. Particulars on application to the Secretary. JULY—703

FOR SALE—Complete Paper-making Plant; consists of Guillotines, Beard Making Machine, Hydraulic Presses, Slitting Machines, Filled Rolls, Rotary Boiler.—ONSLOW MILLS, Yiewsley. JULY—706.

ONE 47" COWL CALENDER, consisting of two chilled steel, steam-heated rolls, 4 felt rolls, hand thickening gear, fast and loose pulleys, countershaft, etc.; in first-class condition; bargain to clear quickly.—Apply THOS. W. WARD, LTD., Silvertown, London, E.16. JULY—705

WORKS MANAGER WANTED, one that has had considerable experience in a similar position, with knowledge of the Paper Trade preferred.—Apply with full particulars, including salary required, by letter only, marked T. P., c/o PHILLIPS, MILLS & Co., LTD., Waste Paper Merchants, Bridge Wharf, Battersea, S.W.11. JULY—704

LOOSE LEAF ACCOUNT BOOKS—Owner of a Swiss account books factory wishes to get in touch with account books manufacturer with the object to sell or license a simple and practical loose leaf book system already well introduced in Switzerland.—Please address offers to Box O.F. 696, Z. Orell-Fussli Advertising—ZURICH.

O.F. 7275 Ge.—July and Aug.—708

GUILLOTINE CUTTER wanted, used to all classes of machines, —Apply, by letter only, giving full particulars, age, salary, experience, etc., to G. C. c/o PHILLIPS, MILLS & Co., LTD., Waste Paper Merchants, Bridge Wharf, Battersea, S.W. 11.

JULY—710.

AMERICAN PAPER MILL SUPERINTENDENT, experienced in every detail of construction and operation of vulcanised fibre plant, wishes to connect with European Paper Manufacturer progressive enough to develop into this profitable business... Apply "OPPORTUNITY," Box No. 691, THE PAPER MAKER Office, 47, Cannon Street, London, E.C.4. May-July 691

Cameron & Co. CHEMICAL AGENTS AND IMPORTERS,

FARINAS, GUMS, ROBIN, DEXTRINES, AND STARCHES, AND ALL PAPER-MAKERS CHEMICALS.

61, Faulkner Street, MANCHESTER.

Works—
Grove Works, Taylor Street
Bury New Rd., Manchester.

REX, WEDDALL & CO.

WOODPULP and PAPER a Speciality

FORWARDING AGENTS

42, Deansgate, MANCHESTER

Tel.: "Release." Phone: 7530 Central.

Fa. J. ANDRIESSE, Rotterdam,
BURGER, ROUSSKAAL, 50 A.B.C.

ALL KINDS OF PACKING PAPER IN REELS AND SHEETS.

Glazed and Unglazed GREASEPROOF — M.B. and Unglazed KRAFT
M.B. SULPHITE TISSUE.

MEYER POOL, Papiergroothandel
Rechter Rottekade, 33, ROTTERDAM, HOLLAND

ASKS OFFERS AND SAMPLES FOR

WAX and PARAFFIN PAPERS

Printed and Unprinted, in Rolls and Sheets. July—709

The Annual Number of THE PAPER-MAKER

—FOR 1919—20—

is now on Sale.

PRICE 3/-

Publishers:

S C. PHILLIPS & CO., 47, Cannon St., E.C.4.

VICKERY'S

LAYERS

TRANSPORTERS

In use
throughout
the
**Paper-Making
World.**

TRANSPORTERS

LAYERS

49, BEDFORD SQUARE,
LONDON, W.C.1.

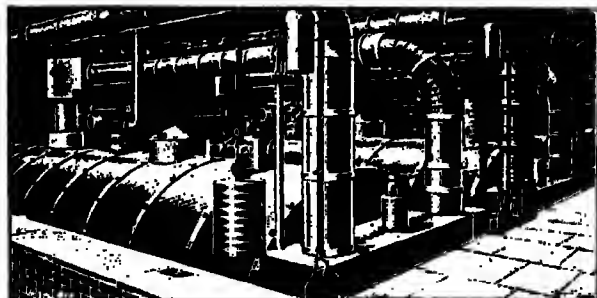
**TUB SIZING
ENGINE SIZING
PAPER COATING**

FECULOSE

- (1) Allows **Tub Sizing** to be done on the paper-making machine. It gives results superior to glue-sized loft-dried papers.
- (2) In **Engine Sizing**, a new development, halves the amount of rosin used in the beater, reduces the quantity of alum necessary and gives equal results in paper sized with from 1% rosin upwards.
- (3) For **Paper Coating**, is frothless, can be dried at high temperatures, and gives a rattle and ink-resistance to paper unequalled by any other size. It is made more easily than glue or casein.

Samples and full particulars from
THE FECULOSE COY., PAISLEY.

BOILER AND PIPE COVERINGS



**Crown Slag
Wool & Steel
Sheeting.**

The most efficient
covering ever tested.

96% SAVING

**Telluric
Cement.**

The most durable
plastic covering
in use.

CROWN ASBESTOS. 85% MAGNESIA.

SUTCLIFFE BROS.

Telephone - **SEAL WORKS, HYDE, Nr. MANCHESTER.**
Hyde 70.
London Works—Seal Wharf, High Street, Stratford, E.15. Established 1869.

A. W. K. TRUEMAN & SON,

LONDON. LEICESTER. BIRMINGHAM

**Paper and Board Merchants,
Imports and Exports.**

**NEWS on REELS and in SHEETS
PRINTINGS.
KRAFTS.
VEGETABLE PARCHMENT.
GREASEPROOF.
TISSUES.
SULPHITES.
BOARDS.**

STOCK LIST ON APPLICATION.

47, FLEET STREET, LONDON, E.C.4.

Telephone :
CITY 4713,

Telegram :
"AWKETTFILS, FLEET, LONDON."

Telephones :
AVENUE 8988
(2 lines.)

AVENUE 1728
(3 lines.)

Chas. Page & Co., Ltd.

(ESTABLISHED 1880)

47/51, King William Street, London, E.C.4.

MANCHESTER : 26 Brown Street.

Telegrams :
"PAGANINI,"
LONDON.

"PAGANINI,"
MANCHESTER.

PRUSSIAN BLUE
PAPER MAKERS' COLOURS
CASEIN
ANTICHLOR
PIGMENTS

PRUSSIATES OF SODA
AND POTASH
HYPOSULPHITE OF SODA
SKIN GLUES SOLUBLE BROWN
CRYSTALS
GELATINES.



ALL PAPER MAKERS' CHEMICALS, COLOURS AND SUNDRIES.
TEST OUR SERVICE AND QUOTATIONS.

Soluble Brown Crystals

Soluble Brown Paste

Carbon Black

Mineral Black

English Umber
(Lump & Powder)

Pulp Colours

Bronze Paste Blue

Powdered Soluble Blue

Paper-makers' Ochre

Red Oxide

Ultramarine Blue
(Alum Proof)

Aniline Dyes of every description

J. L. CARDWELL & CO., Ltd.,

Managing Director - - A. R. LUCAS.

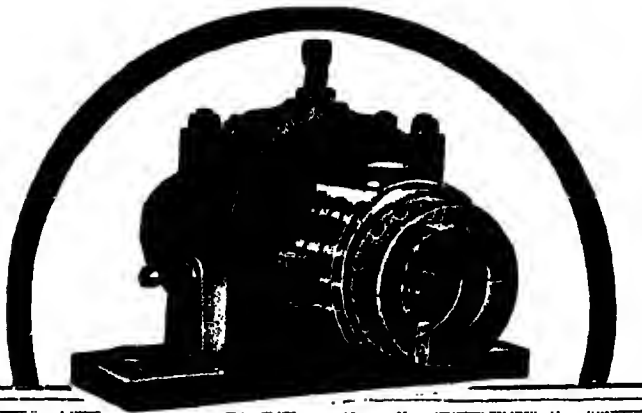
11, Blackfriars Street, MANCHESTER.

Tel. No. 3838 City.

Tel. Address : "Oxidation."

HYATT

Roller Bearings for line shafting



Cut down power costs

Horse power saving - - - 20%
Lubricant saving - - - 75%

Lessened wear and tear on the main drive belt.

Long and dependable service with practically no attendance costs.

Simple construction.
No inner races.

Split box to simplify erection.

Hyatt Ltd.,
24, Devonshire St.,
Theobald's Road,
London - W.C.1.
(L.m.p. offices)



PAPER

WE SPECIALISE IN NEWS, PRINTINGS, BROWNS, CAPS, SKIPS, TISSUE PAPER (WHITE & COLOURED), MACHINE GLAZED CAPS, KRAFTS AND NATURE BROWNS, WRAPPING PAPER, TELEGRAPH PAPER, COUNTER AND TOILET ROLLS, SMALL REELS AND ALL KINDS OF CREPE; BAGS FOR ALL TRADES.

STRAWBOARDS, ALL SIZES AND SUBSTANCES; LARGE STOCKS IN BERMONDSEY AND ELSEWHERE.

We shall have pleasure in sending you our stock lists on receipt of your request.

"BRECHTCK" BOND.

A super-bond letter paper, linen faced or plain. Full range, white and coloured. Supplied at distinctly reasonable prices. Immediate delivery.

THE FRENCH PAPERSTOCK COMPANY, Ltd.
24-30, BERMONDSEY WALL, " " " " LONDON, S.E.16.
Telegraphic Address: "Brechtock. Rothun, London." Phone: Hop 3837 '3 lines.

Local branches at
WEST KENSINGTON,
CALEDONIAN ROAD,
LWISHAM, BRIGHTON,
CHELMFORD,
SOUTHEND-ON-SEA,
SURREY AND
BRENTFORD.

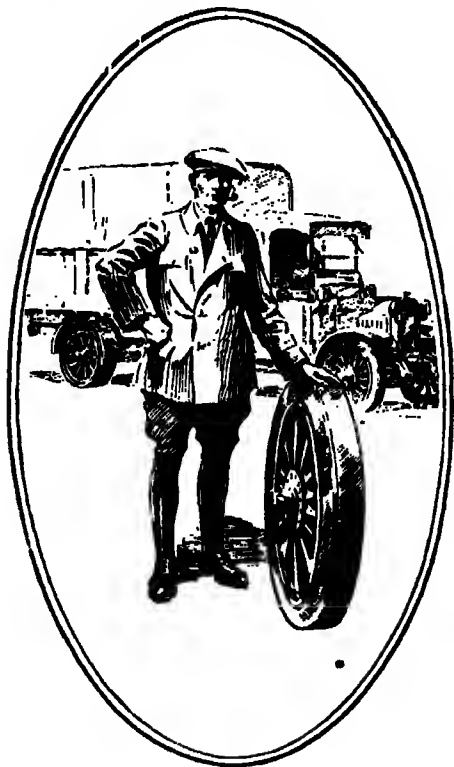
SPECIAL OFFERS

**FRENCH FANCY
BOX PAPER.**

Full range rent on application, with prices

Ask the Driver

Fit Palatine Tyres on one of your lorries, load it up to full weight day in and day out for six months and ask the driver for a running report every week: That is the only way to test tyres.



Palatines will stand the test.

The extra *depth* of tread rubber cuts down cost repairs to mechanical parts—because of additional resiliency.

The extra *width* and *depth* of tread gives longer life and greater mileage.

The tough tread rubber and its process of manufacture ensure smooth, even and slow wearing without chipping or shredding.

The name PALATINE on its side is the stamp of faith the British Manufacturers have in the

PALATINE SOLID-TYRE

THE LEYLAND & BIRMINGHAM RUBBER CO., Ltd., LEYLAND, LANCs

London Offices: 24-30 Duke Street, Aldgate, London, E.C.

BIRMINGHAM—124 New Street.

MANCHESTER—Tower Chambers, 29 Brown Street

CARDIFF—110 Bute St., Docks. **GLASGOW**—49 Queen St. & Kent Works, Maryhill. **EDINBURGH**—25 North St.

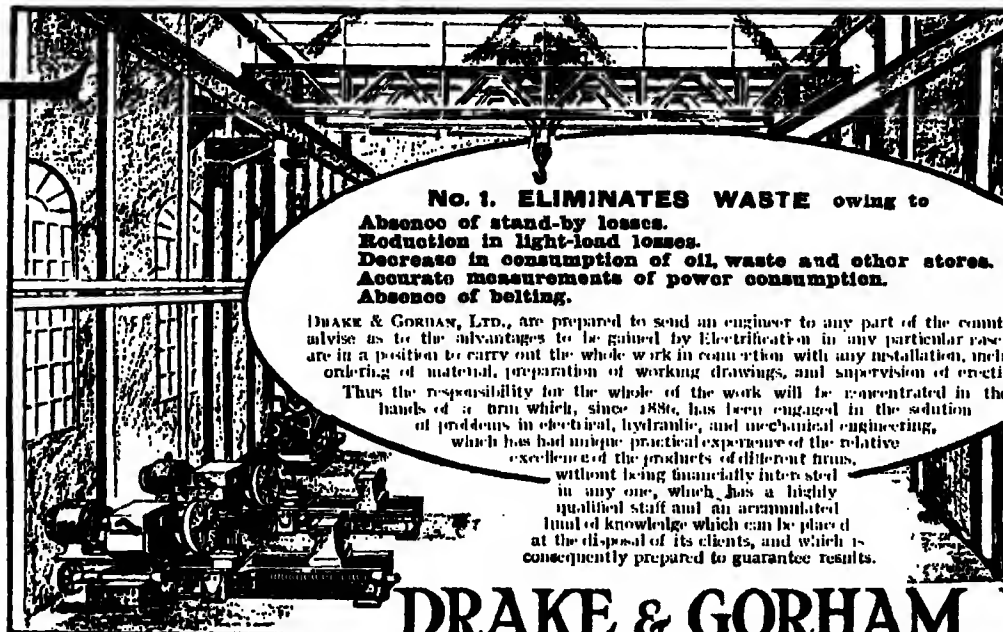
CALCUTTA—Hastings St. **JOHANNESBURG**—Barsdorf Bldgs., Marshall Sq. **BUENOS AYRES**—Rivadavia 1436

RAPID FITTINGS

We are able to fit on tyres within 24 hours at our **STOCK & FITTING DEPOT**, 28, 29 & 30 Sidney Grove, Sidney St., City Rd., London, E.C.1

1. Eliminates Waste. 2. Saves Labour. 3. Increases Production.

ELECTRIFICATION



No. 1. ELIMINATES WASTE owing to

Absence of stand-by losses.
Reduction in light-load losses.
Decrease in consumption of oil, waste and other stores.
Accurate measurements of power consumption.
Absence of belting.

DRAKE & GORHAM, LTD., are prepared to send an engineer to any part of the country to advise as to the advantages to be gained by Electrification in any particular case, and are in a position to carry out the whole work in connection with any installation, including ordering of material, preparation of working drawings, and supervision of erection.

Thus the responsibility for the whole of the work will be concentrated in the hands of a firm which, since 1886, has been engaged in the solution of problems in electrical, hydraulic, and mechanical engineering, which has had unique practical experience of the relative excellence of the products of different firms, without being financially interested in any one, which has a highly qualified staff and an accumulated fund of knowledge which can be placed at the disposal of its clients, and which is consequently prepared to guarantee results.

DRAKE & GORHAM LTD.

36, GROSVENOR GARDENS, S.W.1.

29, PICCADILLY, MANCHESTER.

50, WELLINGTON STREET, GLASGOW.

for Sale

Second hand 2 ton

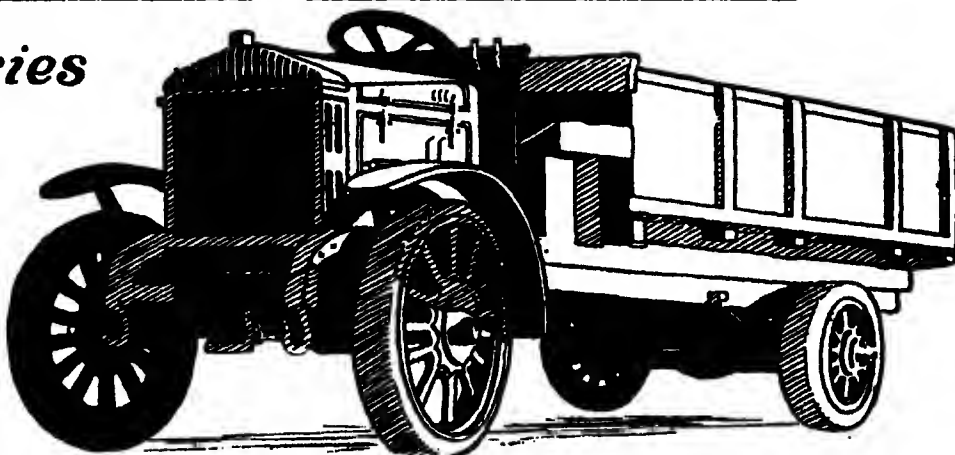
PIERCE ARROW

Lorries

Re-conditioned and in splendid order in every way.
Orders can only be accepted subject to intermediate sale.

WIRE OR WRITE:—
LONDON MOTOR GARAGE CO
Ltd

37 WARDDUR ST., LONDON, W.1
Telegrams:—"Automotor, Picc'y, Ldn."
Telephone:—Gerrard 1426.



JAMES SPICER & SONS LIMITED.

CHAIRMAN:	
THE RT. HON. SIR ALBERT SPICER, BART.	
DEPUTY CHAIRMAN:	
SIR HOWARD H. SPICER, K.B.E.	
CHARLES EVAN SPICER.	J. LEONARD SPICER.
A. DYKES SPICER.	DOUGLAS SPICER.

PAPER

OF EVERY DESCRIPTION.

Head Offices and Warehouses:
**50, UPPER THAMES STREET AND ABBEY WHARF,
LONDON, E.C 4.**

Telephone : CITY 6486.

Factory Telephone 1049 CHISWICK.
Office " 6348 CITY.

Telegrams: "PACKERIES, LONDON."

The Forester Paper Co. (1917)

LTD.

**VICTORIA ROAD,
ACTON, W.3.
Manufacturers.**



DIRECTORS:

A. E. MALLANDAIN.

S. FARROW.

PACKING PAPER
SPECIALITIES.

CORRUGATED
PAPERS & BOXES, Etc.

WAXED PAPERS.

EMBOSSED PAPERS.

PAPER SHAVINGS,
Etc.

FANCY PAPER
SPECIALITIES.

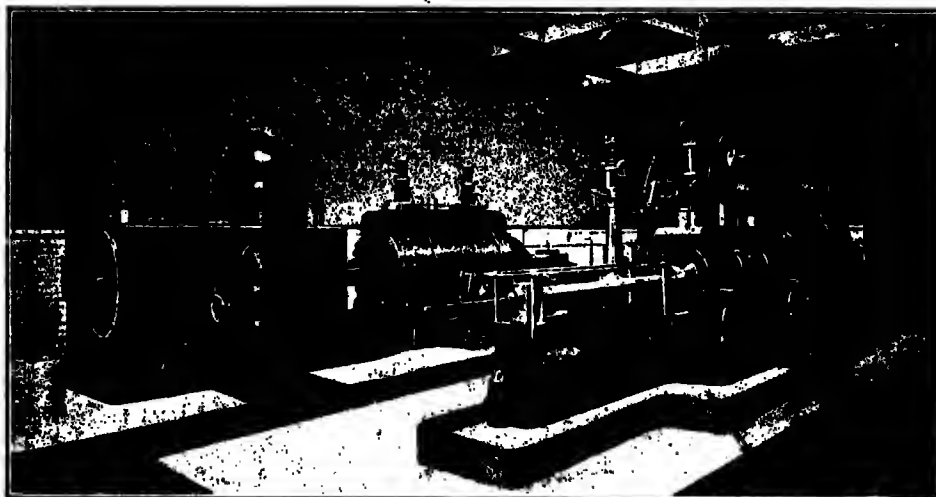
CRINKLED & CREPE
PAPERS.

SHELF AND LACE
PAPERS.

CONFETTI.

CARLANDS, Etc.

Offices: 1, Foresters' Hall Place, Clerkenwell, E.C. 1.



HIGH-CLASS
ECONOMICAL
HORIZONTAL AND
VERTICAL STEAM
ENGINES,
WITH CORLISS
OR PISTON
DROP VALVES.

MILL GEARING.

We have supplied Engines of upwards of 36,000, I.H.P. to British and Foreign PAPER MILLS alone.

Pollit & Wigzell, Ltd.,

Engineers and Millwrights,

SOWERBY BRIDGE, YORKSHIRE.

Telegraphic Address: "Prow, Sowerby Bridge."

National Telephone No. 1563 (2 lines).

ELECTRIC "ORWELL" LORRIES

ALWAYS ALL BRITISH.

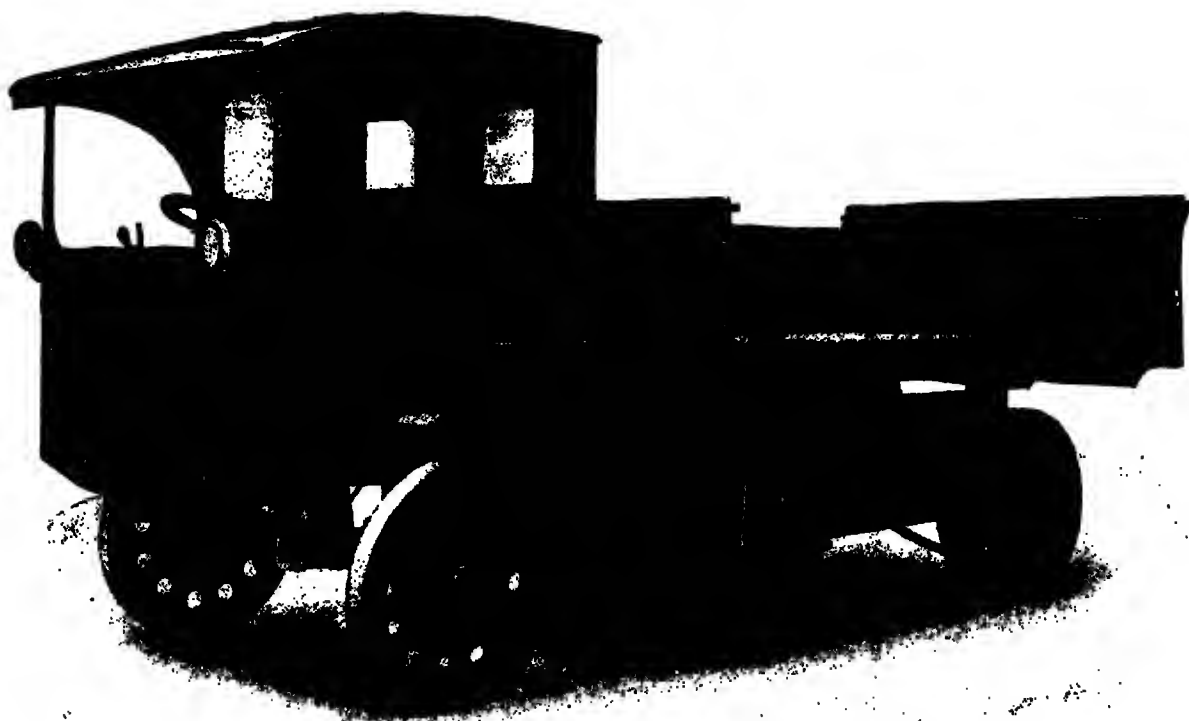
The Satisfied User is the solid basis of "Orwell" success.

NEW ZEALAND EXPRESS Co. used an "ORWELL" for general goods collection and delivery—THEN ORDERED THREE MORE.

WILLESDEN U.D.C. got four "ORWELLS" for refuse collection—THEN ORDERED ELEVEN MORE.

BOOTLE CORPORATION got one "ORWELL" for the same class of work—THEN ORDERED SIX MORE.

THERE ARE OTHER SIMILAR INSTANCES.



A RECENT "ORWELL" DELIVERY TO A FIRM OF PAPER MAKERS.

SATISFACTORY "ORWELL" SERVICE MAY BE YOURS.

RANSOMES, SIMS & JEFFERIES, LTD. (P.V. DEPT.)
Orwell Works, IPSWICH.

Selling Agents for Great Britain:

MOSSAY & CO., Ltd, 7, Princes Street, Westminster, LONDON, S.W.1.

Midland Agent:
R. VERNON C. BROOK,
A.M.I.E.E.,
Shirley,
Birmingham.

Agents for Ireland:
T THOMPSON & SONS,
19, Lower Abbey Street,
Dublin.

Agent for Scotland:
C. J. RITCHIE,
68, Gordon Street,
Glasgow.

Agents for Yorkshire
(West Riding):
THE JOWETT MOTOR
MANUFACTURING Co.
Bradford.

Telegrams: "Prosperous, Cent. London."

Telephone: Central 13483.

W. D. EDWARDS & SONS, Ltd.,

75, KNIGHTRIDER STREET, E.C.4.

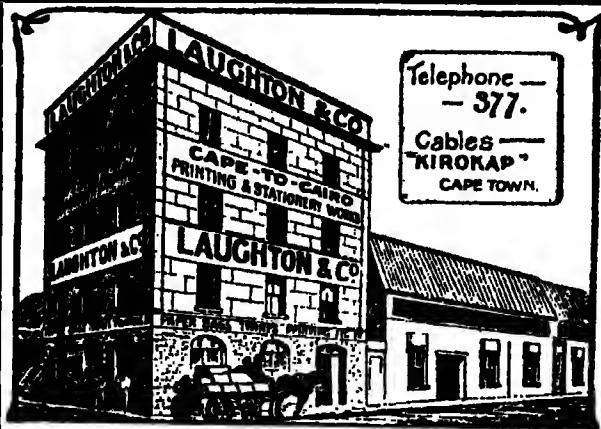
**WHOLESALE PAPER
MERCHANTS & AGENTS****LARGE STOCKS OF WRAPPING AND
BAG PAPERS, GREASEPROOFS, Etc.****The Woodlands Colour & Chemical Company.**

FRED TAYLOR, JOHN NOCHER,

**18, BOOTH STREET,
MOSLEY
STREET, MANCHESTER**Telegraphic Address:
"BASIC, MANCHESTER."**MANUFACTURERS OF COLOURS FOR
LITH GRAPHIC, CALICO PRINTERS,
& PAPER MAKERS, PAPER STAINERS,
DISTEMPER AND PAINT TRADES.**

Works: CHEETHAM HILL, MANCHESTER

Telephone: CITY 947.

**WHOLESALE AND EXPORT
Paper Bag Manufacturers and
Paper Merchants.****Manufacturing Stationers and Printers.**Formerly of London. Established at Cape Town 1896.
Besides being extensive users of various **PAPERS** for Manufacturing
Purposes, we also merchant many grades of Papers.Paper and Pulp Boxboard Mills are invited to send offers of any Clearance
Lines of these; also Samples of all their regular makings of various Papers.We are also open to act as Sole Agents in South Africa for several
Continental Mills, and invite Correspondence, either to our London Agents,**Messrs. COX, MOEVEN & CO., Baltic House, 27, Leaden-
hall St., London, E.C.** Reference, National Bank of S.A.**LAUGHTON & Co., CAPE TOWN.**
MECHAU STREET,

Telegrams: "OTHERWHILE, LONDON."

Telephone No.: BANK 5707.

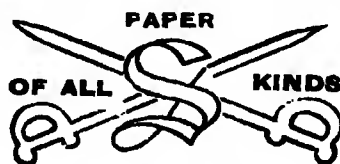
ESTABLISHED 1891.

PAUL SABEL & CO.,

(PERCY P. E. SABEL)

Paper Agents and Merchants

(IMPORT AND EXPORT).



Registered Design.

Enquiries Solicited for all Kinds of

WRAPPINGS, PRINTINGS, AND WRITINGS.

Sole Agents for Several Continental Mills.

26, UPPER THAMES STREET, LONDON, E.C.4.

For 1920 offer choice of three Bleached Sulphites in following capacities:

13,000 tons moist, strong "MERRITTON."

40,000 tons dry "HAWKESBURY" for book and kindred papers.

40,000 tons "KLPWA" highest grade, clean bleached for wood bonds and fine papers, where strong, well-cooked pulp is required. Your choice in wet or dry.

RIORDON PULP & PAPER CO., LTD.
MONTREAL CANADA

BROWN



& FORTH

Brussels:
110, Les Broussarts.

London:
21, Farringdon Street, E.C.

Telegrams:

"IDEM, MANCHESTER."
"CRRBLUK, CRNT, LONDON."

TRADE MARK
PROPRIETOR: JOHN BROWN.

Manchester:
10, Dolefield, Bridge Street.

Telephone Nos.:

MANCHESTER 3283, 3284, and
3285 Central.
LONDON 9496, 9497 City.

Alkali
Alumina Sulphate
Alumina Hydrate
Alumina Cake
Aluminoferrie Cake
Ammonia Sulphate
Barium Chloride
Bianc Fixe
Bleach
Borax (Crystals)
Caustic White
Chrome Alum
Copper Sulphate
Hypo-sulphite of Soda
Oxalic Acid
Salt Cake

Salt Ammonias
Satin White
Soda Ash, Carbonated
Sulphite of Soda
Sulphur, Rolls
Brown Umber
Bronze Blue
Burnt Turkey Umber
Carbon Black (English)
Chrome
Lithopone Substitite
Mineral Black
Lithopone
Ochre (English and Irish)
Ochre (French)
Prussian Blue Paste

Prussian Blue Powder
Paste Black
Pure Zinc Oxide
Red Oxide
Red Oxide (Spanish)
Venetian Red
"Bone Glues"
Bone Size
Casine
Common Black Glue
Common Hide
English Gelatine
Foreign Gelatine
Foreign Glues
Fine Scotch Glues

Gelatin Size
Pickers Waste
Star Hides (Shavings No. 1)
"Town Glues"
Tanners' Wet Pieces
Maise Starch: Crisp
Pearl
Powder
Special
Farina Starch: Prime
Rice Starch: Special (in sheets)
Crystal (in bags)
Granulated (in bags)
Dextrine

Bauxite
China Clay
Chloride of Zinc
French Chalk
Gypsum, Anhydrous
Italian Chalk
Magnesite
Magnesite (in lumps)
Mineral White
Patent Hardening
Paper Makers' Plaster
Superfine Hardening
Talc (Norwegian)

ALUMINIUM AND BRONZE POWDERS:

For all purposes.

WAXES:

Beeswax, Composition Wax, Japan Wax, Ceresine Wax, Carnauba Wax, Core Vent Wick, Cable Wax, Ozokerite, Vegetable Wax, Spermaceti Wax.

SOAPS:

Of every description.

ULTRAMARINES:

Manufactured in all shades and for all purposes—Blues, Greens, Violets and Pinks.

SULPHATE of ALUMINA, 17/18%.
Commercial and Iron Free.

KNUT EGGERS

PAPER AGENTS
and MERCHANTS

HOME and EXPORT

SPECIALITIES: _____

**KRAFT BROWN, CAP
SULPHITE
GREASEPROOF & NEWS**

PARIS.
(Head Office)

5, Oite Pigalle (9e)

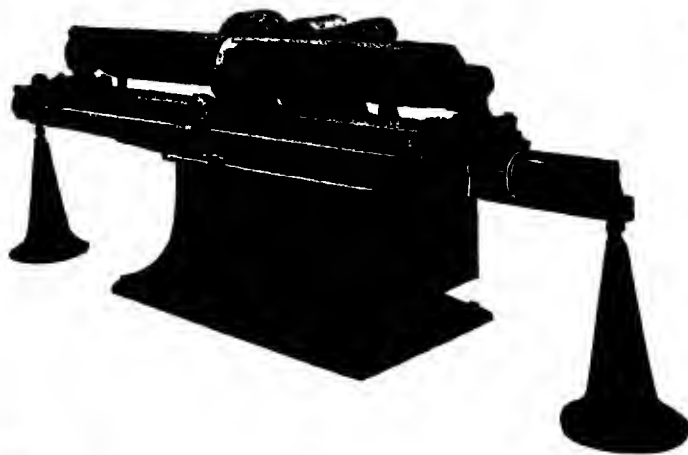
Telegrams: "Leueggers, Paris."
Telephone: (2 lines)
Central 46-62. Louvre 10-44.

LONDON.
(Branch Office)

**58, Ludgate Hill,
E.C.4.**

Telegrams: "Editorship, Cent, London."
Telephone: City 7542.

Please apply for quotations and samples.



Protective Papers.

Diamond-F Glassine, Greaseproof, Parchmoid

Vegetable Parchment and Spinning Parchment,

Also Manufacturers of Diamond-Fibre
Trucks, and Receptacles.

Diamond State Fibre Company

Bridgeport, Pa. (near Philadelphia), U.S.A

London Address: High Road, S. Tottenham, N.15.

L. S. SMALL & Co. (J. L. SHAW.)
Proprietor

PAPER MERCHANTS.

Always in Stock: **BROWN WRAPPINGS & KRAFTS**

45/46, Blackfriars St., 'Phone: 6943 CITY.
MANCHESTER. 'Grams: "Small, Lightning, Manchester."

NORMAN EVANS,

427-433, PRODUCE EXCHANGE,
MANCHESTER.

12, MANNINGHAM LANE,
BRADFORD.

Manufacturer of

**SPIRIT, OIL & WATER SOLUBLE N GROSINES,
LIME BLUES, LIME GREENS, LITHOL RED
LAKE, ULTRAMARINE BLUE SUBSTITUTE, Etc.**

ENQUIRIES ESTEEMED.

AUTOMATIC KNIFE GRINDERS

FOR

Grinding Paper Cutting Knives

of all kinds from 6" to 130" in length, with
straight or concave bevel as desired. Prompt
deliveries on all sizes. Full particulars from:

HONEYWILL BROS.

79 MARK LANE, LONDON, E.C.3

ROZOLENE SIZE

FOR PAPERMAKERS.

Sole Makers:

THE ROZOLENE CO.,



**49, DEANSGATE,
MANCHESTER.**

FELBER, JUCKER & CO.

(Established 1860)

LTD.

MANCHESTER:

Head Office:—

29, PETER STREET.

Telephone:—
CITY 7790 (Private Exchange).

Telegraphic Address:—
"FELBER, MANCHESTER."

LONDON:

37, WALBROOK, E.C.

Telephone:—
BANK 280.

Telegraphic Address:—
"FELBER, GANNON, LONDON."

CODES:

A.B.C. 5th and 6th Edition. Liebers. Western Union. Hamiltons. Private.

Branch Offices:—

BOMBAY, BUENOS AIRES, JOHANNESBURG and MILAN.

WHOLESALE ONLY

Papermakers' Agents

WHOLESALE ONLY

Largest Importers & Exporters of All Classes of
BOARDS & PAPERS

Agents: **Finnish Board Union**

Comprising:—

Enso, Myllykoski, Kymmene, Tammerfors, Karhula, Pankakoski,
Kaitimo, Aankoski, Hamkoski, Ingerois, Lonnqvist, Herrfors,
and Nasijarvi Mills.

THE
ALL
BRITISH **"LEADER"**

**ENVELOPE FOLDING &
GUMMING MACHINE**

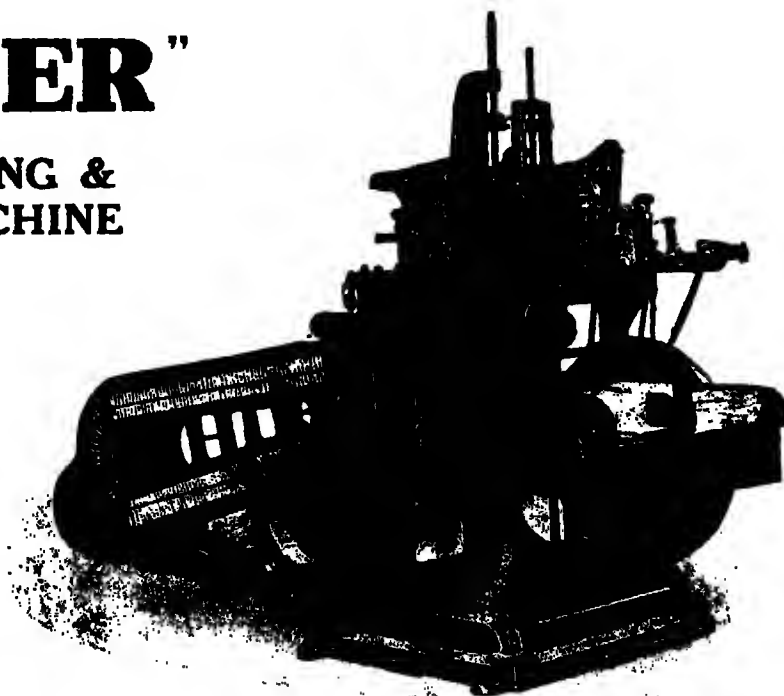
FASTEST AND SMOOTHEST RUNNING
MACHINE ON THE MARKET.

Sealing flaps gummed and
dried at a speed of 130 enve-
lopes per minute.

UNRIVALLED FOR—SPEED,
EFFICIENCY and EXCEL-
LENCE OF GUMMING.

David Carlaw and Sons,
31, Finnieston St., Glasgow. *Limited.*

Telephones: 1262/3 Central.
Telegrams: Automaton, Glasgow.



London Agents:

JOHN W. BAINBRIDGE, LTD., 28, FINSBURY PAVEMENT, LONDON, E.C.2.

**HAMMERMILL
BOND**

**HAMMERMILL
COVER**

**HAMMERMILL
LEDGER**

**HAMMERMILL
SAFETY**

**HAMMERMILL PAPER Co.'s
AGENCY,**

THE LINDENMEYR & JOHNSON PAPER CO., LTD.,
Telegrams and Cables | Usapacol. Cent, London. 11 b Upper Thames Street, E.C. 4. Telephone | City 188.
189.

Telephone :
6231 CENTRAL.

Telegrams :
"FISKEBYAG, LONDON,"
Code 5th Ed. A.B.C.

ERIK FERNSTROM,

171, QUEEN VICTORIA STREET, LONDON, E.C.4.

Papermakers' Agent and Merchant - -

Supplier of -

M.G. PURE SULPHITE, excellent quality for bag making.

M G. SULPHITE WRAPPINGS.

M.G. MECHANICAL CAPS.

GREASEPROOFS.

TISSUES.

M.G. THIN SULPHITE, excellent for Waxing purposes.

KRAFT PAPERS.

GLAZED PRINTINGS.

NEWS.

ETC.

SOLE AGENT in the United Kingdom for —

Fiskeby Fabriks Aktiebolag.,
SWEDEN.

FISKEBY MILLS.

LJUSFORS MILLS.

SKARBLACKA MILLS.

Makers of 30,000 Tons of Paper per annum.

Telephone No.:
CITY 680.

Telegraphic Address: "OLDRUSEN, LONDON."
Code: Fifth Edition A B C

T. V. OLSEN,

LAMBERT HOUSE, 10-12, LUDGATE HILL,
And 2-3, AVE MARIA LANE, LONDON, E.C.

Papermakers' Agent & Merchant.

SPECIALITIES:

**KRAFT PAPERS, M.G. SULPHITE
PAPERS, TISSUES, GREASEPROOF
and all Classes of Paper for Bag Makers.**

EXPORTERS OF PAPER
are asked to send their enquiries.
Papermakers and Board Mills are
invited to send offers of any class
of Papers and Boards, and also
stock lines of any kind. Prompt
Settlements.

Sole Agent for Great Britain and Ireland for

Torps Brug Aktieselskab,
FREDRIKSSTAD, NORWAY,
Makers of UNGLAZED & M.G. KRAFTS

Wargöns Aktiebolag,
WARGÖN, SWEDEN
Makers of M. G. SULPHITE PAPERS,
Pure and Mixed.

The Cost of a Paper Machine Wire can be figured only on the basis of Service Rendered

Rapid strides are being made to-day in combining metals to produce a result which will give greater service.

A metal has been perfected for the manufacture of wires, other than Fourdriniers, for paper and pulp mills, called NICKEL ALLOY.

O'NEILL NICKEL ALLOY WIRES have demonstrated by their performance in some of the largest mills in the United States, that their life and service show approximately 400% better investment for the pulp and paper manufacturers. Upon request testimonials will be gladly submitted.

We recommend that you try the O'NEILL NICKEL ALLOY WIRES. They cost more but they are worth it.

We also manufacture very durable paper machine wires of brass and bronze in plain, double warp, triple chain and twisted weaves.

Joseph O'Neill Wire Works
Southport - Connecticut, U.S.A.

AULD'S Patent REDUCING VALVES

are well-known to ENGINEERS in
PAPER MILLS throughout the world.

Our New Patent "QUITETITE" Valve

is highly
recommended
for its
SIMPLICITY
and has
already
established
itself as



THE MOST
ACCURATE
& RELIABLE
REDUCING
VALVE
ON THE
MARKET
TO-DAY.

*We have
received*

NEARLY A
HUNDRED YEARS'
EXPERIENCE
IS BEHIND OUR
VARIOUS
SPECIALITIES, VIZ.,

*countless
Repeat Orders.*

REDUCING, SAFETY,
SURPLUS AND STOP
VALVES,
AUTOMATIC
EXHAUST VALVES,
ETC.

Catalogues on application.

DAVID AULD & SONS, Ltd.
WHITEVALE FOUNDRY, GLASGOW.

Estd.



1848

Cole, Marchent & Morley Ltd.

Telephone
744 Bradford

Bradford Yorks.

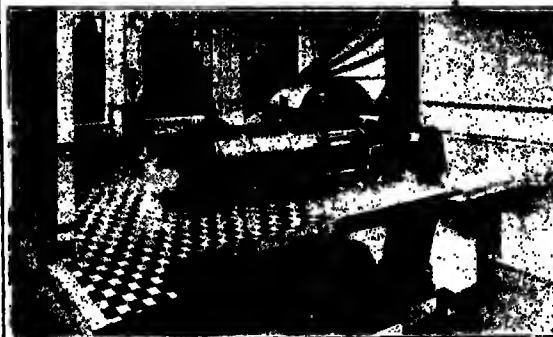
Telegraph:
'Cole, Bradford.'

O., M. & M.

CENTRAL EXHAUST STEAM ENGINES, with Piston Drop
Valves, and Patent Combined Drain, Exhaust and Relief Valves.

HEAT EXTRACTION ENGINES for installations where
Steam is required in the works for heating or process work.

Catalogues gladly sent on request.



1,000 L.H.P. C. M. & M. Central Exhaust Steam Engine Installation.

UNIFLOW STEAM ENGINES.



Specially suitable for Paper Makers. Strongly built.
— Very Reliable. High Economy. —

HICK, HARGREAVES & CO. LTD.,
BOLTON, **ENGLAND.**

ESTABLISHED 1832.

Telegrams: "HICK, BOLTON."

Phone: 1373.

Makers of Corliss, Drop Valve and Uniflow Steam Engines, Diesel Oil Engines, Condensing Plant, Mill Gearing.



AKTIEBOLAGET HELSINGE TRÄEXPORT

(Formerly Arvid Ordqvist.)

OFFICES: SOMMEN, SWEDEN.

Shipments from Baltic Ports and Gothenburg.

Yards at Söderhamn, Gefle, and Gothenburg.

About 12,000 standards per annum

EXPORTERS OF SAWN AND PLANED WOOD GOODS,
WOOD-TAR AND TURPENTINE.**BOXBOARDS & WOODPULP**

Shipping Marks for Sawn and Planed Goods:

1sts	- -	H	†	T	4ths	- -	H	-	T
2nds	- -	H		T	5ths	- -	H	V	T
3rds	- -	H	+	T	6ths	- -	H	W	T

Unsorted: Helsing.

Telegraphic Address: "Helsing, Sommen."

**HANDELSFIRMAN SOLO
STOCKHOLM C. SWEDEN.**

Export of

**Scandinavian Paper
Pulp and Boards**

..... all kinds.....

Commission Merchants and Agents.

Telegraphic Address—"SOLO, STOCKHOLM."



**Telegraph Tape.
Perforator Rolls.
Cable Recording Rolls.
Cash Register Rolls.
Adding Machine Rolls.**

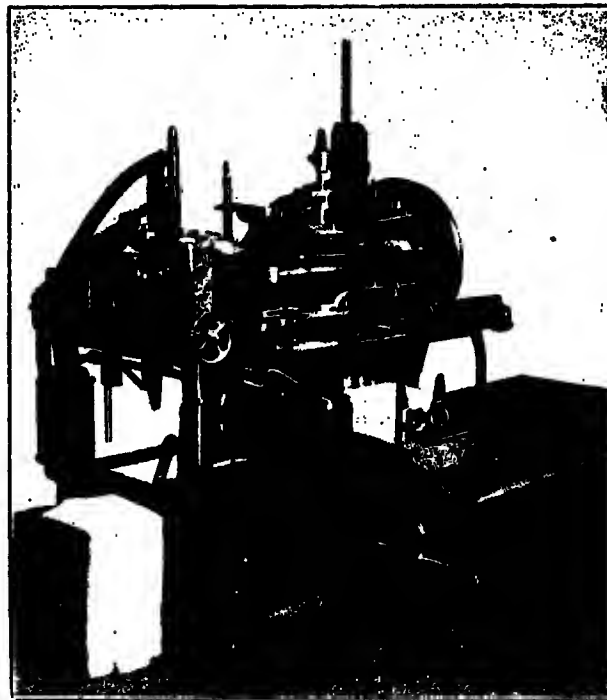
WE ARE THE LARGEST MANUFACTURERS
OF VARIED SMALL ROLL PRODUCTS IN
AMERICA.

PAPER MANUFACTURERS CO., INC.
528, CHERRY STREET, PHILADELPHIA, P.A.

Cable Address: "Paman."

THE CARMIC

**AUTOMATIC ADJUSTABLE
ENVELOPE OR BAG FOLDING
MACHINE.**

BRITISH MADE THROUGHOUT.**ADVANTAGES OF THE CARMIC:**

1. Any size Envelope or Bag can be folded upon the "Carmic," within the specified range of each Machine which is practically unlimited.
2. The change from one size to another being carried out in about one hour. No additional boxes needed. Same box used for all sizes.
3. All classes of paper can be folded.
4. Out-put of Machines from 28,000 to 32,000 per day.
5. Does not require special skill to operate.
6. Very little motive power is needed to drive Machine.
7. Best material and workmanship throughout.
8. Space required for machine and operator, 7ft. x 5ft.
9. Machines supplied ready for working.



Prices and Particulars to be obtained from

Peter Carmichael & Co., Ltd.

303, SOUTHAMPTON STREET,
CAMBERWELL, LONDON, S.E.5.

Telephone:
Hop 479.

Telegrams:
"Encarmicomb, Camb,
London."

Do You know these Papers ?

THEY are Members of the British Association of Trade and Technical Journals, Ltd., a progressive organisation of over 150 journals, having as one of its chief objects the expansion of British trade through an efficient business Press.

These journals can help you if you need up-to-date information about any trade or industry, or if you want to know about new processes—or goods—or sources of supply.

They offer you the most effective means of finding new markets at home or overseas for the goods you produce or sell; they can help you to solidify and extend your present markets.

They invite enquiries on any technical or commercial matters in the various branches of industry they represent.



The address of any Paper in this list may be obtained from the Secretary of the

**British Association
of Trade & Technical
Journals, Ltd., :: ::**

Sicilian House, London, W.C. 1.
Southampton Row,
Telephone No.: HOLBORN 395.

Aeroplane (London).
Auto-motor Journal (London).
Auto-Cyclist (Sydney).
Bioscope (London).
Builders' Gazette (London).
Brick & Pottery Trades' Journal (London).
British & Colonial Mineral Water Trade Journal (Cardiff).
British & Colonial Pharmacist (London).
British Baker (London).
British Journal of Photography (London).
Chemical News (London).
China Clay Trade Review (London).
Confectionery Journal (London).
Corn Trade News (Liverpool).
Dairy & Creamery Journal (London).
Dairyman (London).
Decorative (London).
Drapers' Organiser (London).
Electrical Industries & Investments (London).
Electricity (London).
Electrician (London).
Engineering Review (London).
Fancy Goods Record (London).
Fertiliser & Feeding Stuffs Journal (London).
Fine Art Trade Journal (London).
Flight & The Aircraft Engineer (London).
Footwear Organiser (London).
Freemason & Masonic Illustrated (London).
Hardwareman & Ironmonger's Chronicle (London).
Indian Medical Gazette (Calcutta).
Indian & Eastern Engineer (Calcutta).
Indian Motorist (Calcutta).
India Rubber Journal (London).
Journal of Decorative Art (Manchester).
Licensing World (London).
"Locomotive" & Railway Carriage and Wagon Review (London).

Marine Engineer & Naval Architect (London).
Mechanical World (Manchester and London).
Milling (Liverpool).
Model Engineer & Electrician (London).
Motor Cycle & Cycle Trader (London).
Motor Export Trader (London).
Motor in Australia (Sydney).
Motoring in South Africa (Cape Town).
Motorist & Wheelman (Perth, W.A.).
Motor Magazine of Canada (Toronto).
Motor Trade of Canada (Toronto).
Motor Trader & Review (London).
Music Trades Review (London).
National Association Review (London).
N.Z. Motor & Cycle Journal (Auckland, N.Z.).
Organizer (London).
Outfitter (London).
Paper Box & Bag Maker (London).
Paper Maker & British Paper Trade Journal (London).
Photographic Dealer (London).
Power Laundry (London).
South African Motorist (Johannesburg).
South Australian Motor (Adelaide & Australia).
Sports Trades Journal (London).
Stationery World (London).
Steering Wheel (Brisbane).
Sugar Journal, International (London).
Textile Manufacturer (Manchester).
Textile Mercury (Manchester).
Toyshop & Fancy Goods Journal (London).
Waste Trade World (London).
W.A. Motorist (Perth, W.A.).
World's Carriers and Carrying Trades' Review (London).

WAYAGAMACK



WORKS FROM LOG CONVEYOR

**Largest
Kraft Mills in
the World**



EXPORT BAILING

WAYAGAMACK

PURE KRAFT

W. & A. G. Co. Ltd.
PAPER MILL

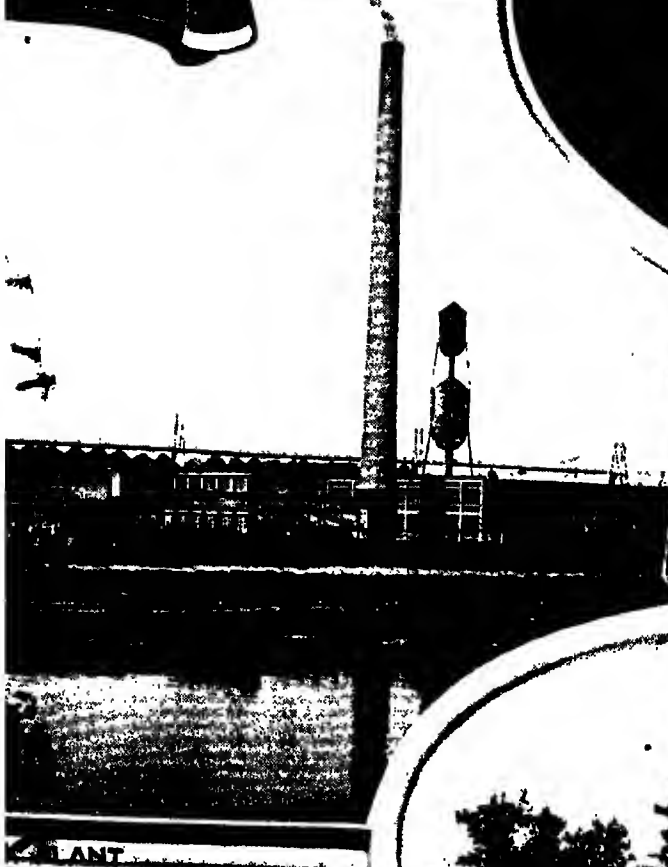


LOG PILE AND CONVEYOR

MANUFACTURERS OF
Sulphate Pulp
and Kraft Paper
GLAZED AND UNGLAZED



WYAGAMACK COTTAGES



PLANT

W. & A. G. Co. Ltd.
PAPER MILL
WYAGAMACK

WATER SUPPLIES.
for
BORE HOLES
and High Class
PUMPING MACHINERY.
Consult
WILLIAM M. MATTHEWS & CO. LTD.
Moston Lane
MANCHESTER.

MUSGRAVE'S FANS and HIGH-SPEED ENGINES.

For all purposes where
 air requires to be moved.

Induced Draft
 for Boilers.

Forced Draft.

Drying.

Dust Removal.

Complete Schemes Designed and
 Installed.

MUSGRAVE & Co., Ltd.,

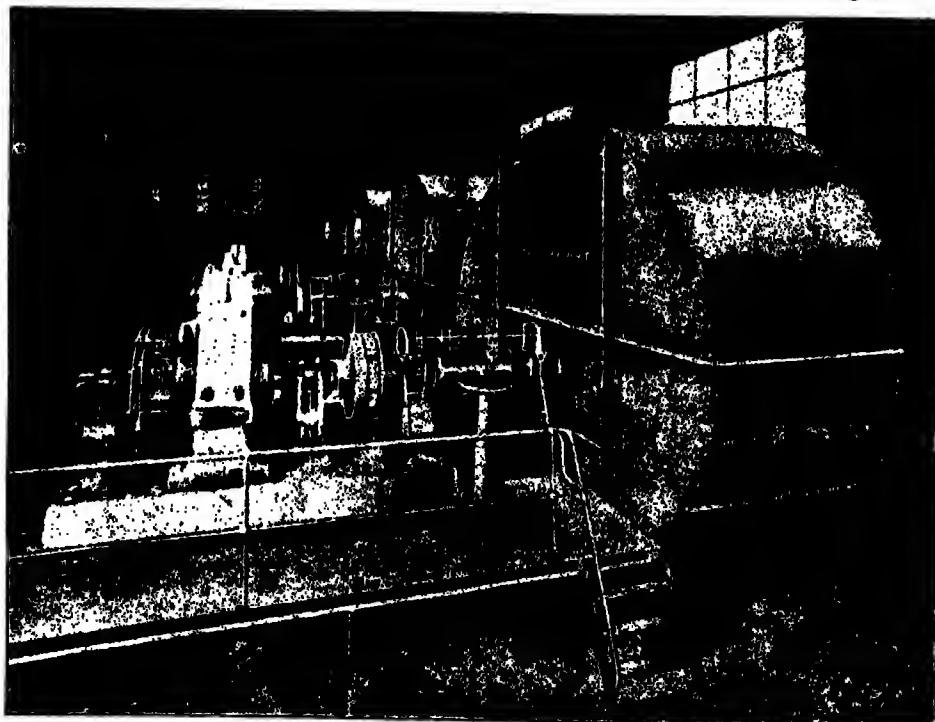
48, Deansgate, MANCHESTER

Sardinia House, Kingsway,
 LONDON, W.C.1

24, Queen Street, CARDIFF.

Head Office;

St. Ann's Ironworks, BELFAST.



Three large Induced Draft Fans, recently installed in the Corporation Power Station, Bradford.

THE UNITED WIRE WORKS LTD.

EDINBURGH, GLASGOW, & NEWCASTLE-ON-TYNE.



EDINA WORKS, EDINBURGH.



BALTIC WORKS, GLASGOW.



CARNTYNE WORKS, GLASGOW.

Paper-Machine Wires

ALL MESHES, AND UP TO 20 FEET WIDE.

CYLINDER COVERS.

**WIRE CLOTH of all kinds in Brass, Copper, Bronze,
and Steel, Plain, Tinned, Galvanised or Painted.**

GREENHALGH & CO.

Sulphite Sulphate — AND — Mechanical Pulp.



LONDON :

56, Cannon Street, E.C.

Wire: "INCITATUS."

'Phone: CITY 3382.

MANCHESTER :

15, Cross Street.

Wire: "INCREMENT."

'Phone 2627 CITY.

**Bronze Blue & Polishing Bronze Blue
Woodley Scarlet, etc., etc.**

ASHBROOKS LIMITED

46a, Market Street, MANCHESTER.

WOOD MILL,
Works: WOODLEY nr. STOCKPORT.

Tel.: 6577 CITY, MANCHESTER.
115 DENTON, WORKS.

Grans. ACETIC, MANCHESTER.
ACETIC, WOODLEY.

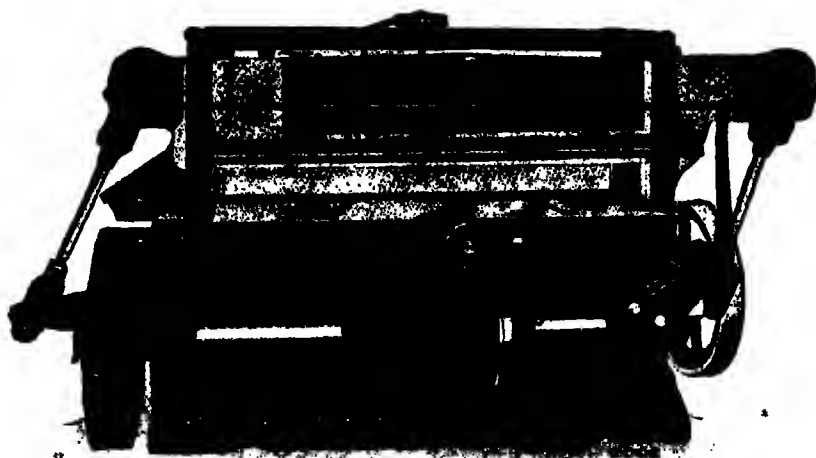
ALL COMMUNICATIONS TO MANCHESTER OFFICE.

Samples Matched on Shortest Notice.

Manufacturers of all Classes of Colours and Pigments.

SMYTH-HORNE Ltd.

Dealers in Special Labour Saving
——— Machines for the ———
Bookbinding and Printing Trades



Seybold "Dayton" Automatic Mill Cutter.

DURING the last few months we have installed a number of these machines, all of which are giving splendid satisfaction.

We are receiving shipment of a few at a time, all of which are generally bespoke before arriving. Those seriously interested should write for full particulars.

Sole Selling Agents for

The Smyth Mfg. Co.

The Seybold Machine Co.

American Assembling Co.

Chambers Brothers'

Book Folders.

W. F. Marresford Co.

C. F. Anderson Co., etc.

New Address: 1-3 BALDWIN'S PLACE, GRAY'S INN
ROAD LONDON, E.C.1

Telephone : 2215 Telegrams : "Smythorne, London."

Lang Bridge Ltd.

Makers of Machinery for Paper Mills

Paper Coating Machines with
Festooning Arrangement (with
or without Turntable), Hot
Air Drying Apparatus, Self-
acting Rod Box, and Reeling
Apparatus.
Calenders.

Paper Brushing Machines
with three Large Circular
Brushes.
Re-reeling Machines.
Slitting and Cutting Machines.
Pasting Machines for three
Webbs of Paper.

Paradise Works, Accrington, Lancs.

J. E. SALVESEN & Co., Ltd.

AND

GORDON WATTS & Co.

Timber and Wood Pulp Agents

LONDON	-	158, Fenchurch Street, E.C.3.
MANCHESTER	-	448/450, Produce Exchange Buildings.
EDINBURGH	-	9, Greenhill Park.

Telegrams { Salvesen
Cornod } LONDON.

Salvesen
Cornod } MANCHESTER

Johemil EDINBURGH.

PORRITTS & SPENCER, LTD.



Telegrams :

EXPORT, BURY.

Telephones :

607 and 608 BURY.

Head Office :

BURY, - LANCs.

Branches :

PORRITT BRO. & AUSTIN, LTD.

JOSEPH PORRITT & SONS, LTD.

SAMUEL PORRITT & SONS, LTD.

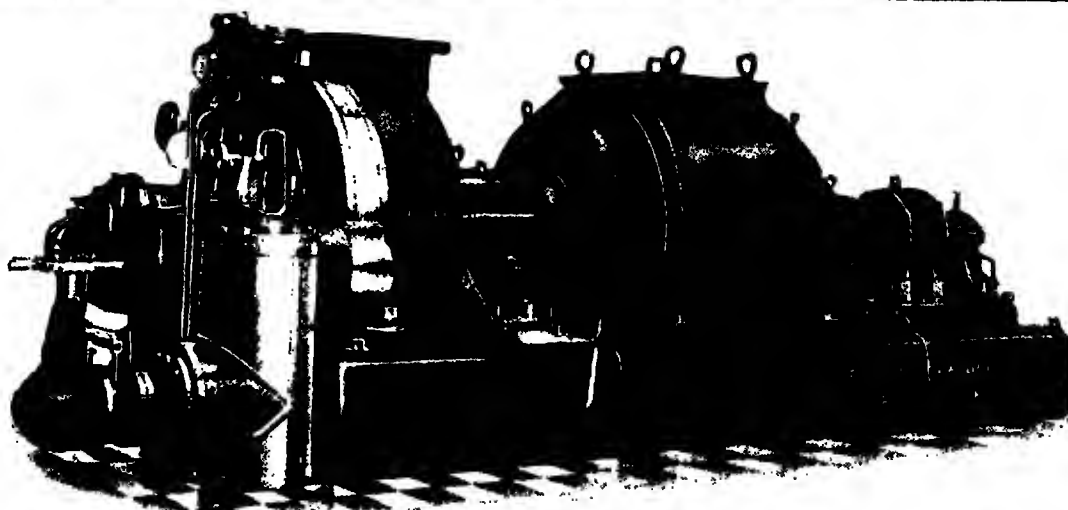
J. H. SPENCER & SONS, LTD.

The Largest Manufacturers in the World

OF

PAPERMAKERS'

FELTS & JACKETS



BACK-PRESSURE & PASS-OUT IMPULSE TYPE STEAM TURBINES
FOR

PAPER MILLS

Provide combined Power-Generating and Steam Heating Plant.

ECONOMY IN PRODUCTION.

LOW MAINTENANCE COSTS.

RELIABILITY AND EFFICIENCY.

Complete installations supplied with A.C. or D.C. Generators.

Enquiries invited.

FRASER & CHALMERS ENGINEERING WORKS, Erith, KENT.

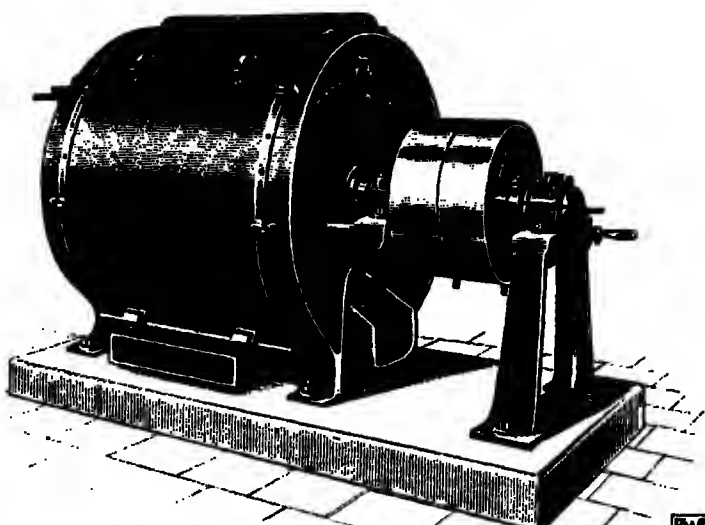
Proprietors: The General Electric Co., Ltd.

London Office: 67, Queen Victoria Street, London, E.C.4.



ESCHER WYSS & CO. S.A.

Zurich (Switzerland).



CENTRIFUGAL SCREEN FOR WOOD GRINDING MILLS.

**COMPLETE PAPER MILL
INSTALLATIONS.**

LONDON OFFICE:

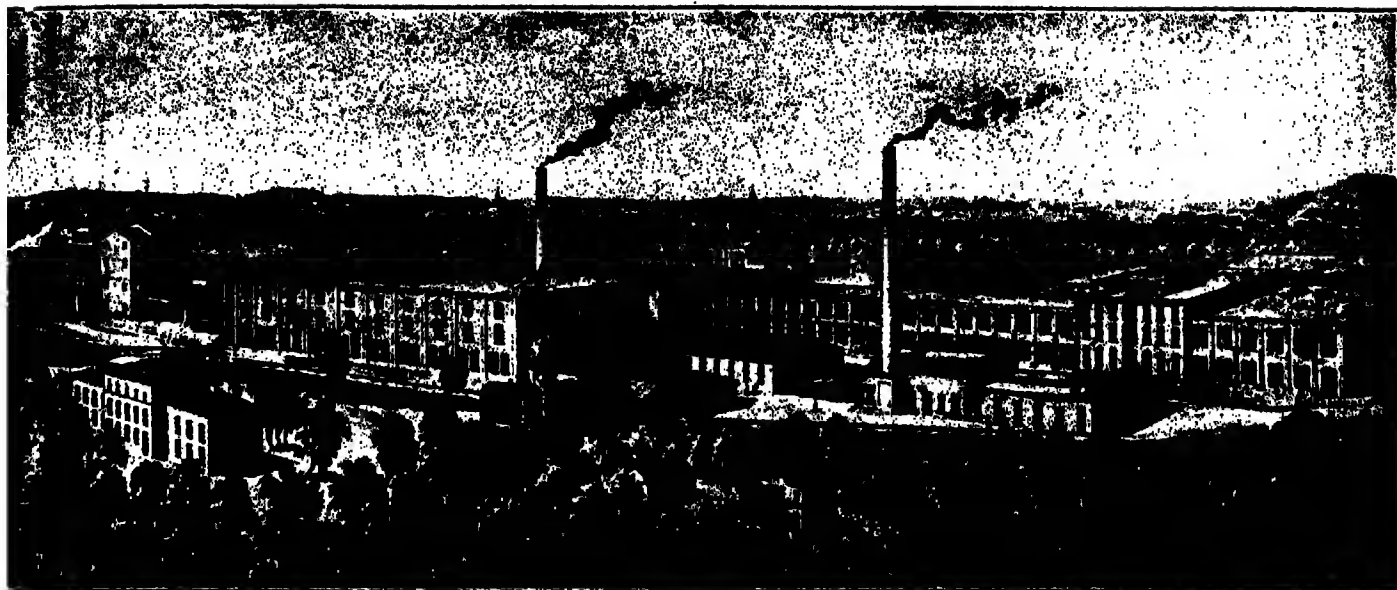
109, Victoria Street, Westminster, S.W.

TOKYO OFFICE:

3, Uchisaiwaicho Itchome
Kojimachi-Ku.

MONTREAL OFFICE:

212, Coristine Buildings.



A VIEW OF ONE OF OUR MILLS. YEARLY OUTPUT 24,000 TONS

Write for Samples & Quotations to

R. L. LUNDGREN,

ESTABLISHED 1874.

LIMITED,

113, Queen-Victoria Street, London, E.C.

and at 2, ST. ANDREW SQUARE, EDINBURGH.

Telephone No: 6058 City (Two lines).

Telegraphic Address: "Lundgren, Cent. London."

Fine Folding Enamelled and Faced Boards
REELS or SHEETS.

Fancy Papers. Leather Papers.
Wood Pulp Boards and Middles.

Specialists for the FOLDING BOX TRADE

U.K. Trade and World Exports.

HIGHEST GRADE
GLUES
AND
GELATINES

Extensively used for
Paper-Making and Paper Coating.
FREE OF GREASE AND ACID. MOST RELIABLE.

SUPPORT HOME INDUSTRY, AND SEND FOR SAMPLES TO THE MANUFACTURERS:

EDWARD GORTON, Ltd., PADDINGTON WORKS, **Nr. WARRINGTON.**

Branch Works : **CHESHIRE GELATINES, Frodsham Bridge.**

Charles Briscoe & Co., Ltd.
offer

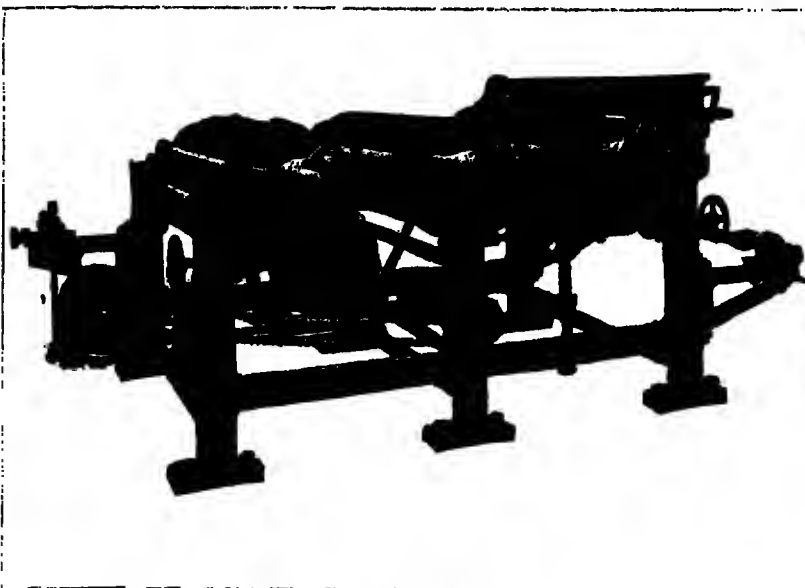
PAPER IN MANY
QUALITIES

from Warehouse and Mill.

77, KNIGHTRIDER STREET, LONDON, E.C.4.

Telegrams : Excharbris, Cent, London.

Telephone : City 5484.



BRUSHING MACHINE, QUADRANT ADJUSTING.

**We now specialise in all
auxiliary Machinery for
Paper Mills.**

Complete Plants for Gelatine and Emulsion
Plants for Photographic Paper

Baryta Coating Plants.

Art Enamel and Tin Foil Coating Plants.

Reeling Machines.

Brushing Machines

Super-Calenders for all purposes,
from 5 to 10 Bowls.

We also specialise in Woollen, Paper,
and Cotton Bowls for the Paper
Trade

Place your orders with a British Firm,
and keep the Paper-Making Machine
Industry at home.

All Patterns and Designs of the above
Machines can be supplied, also Elec-
trical Equipment to drive the plant, if
desired.

Park Works,
MANCHESTER.

Mather & Platt, Ltd.

Queen Anne's Chambers,
LONDON, S.W.

BERNER & NIELSEN

LONDON : 57, GRACECHURCH STREET, E.C.

Telephones :

London: Avenue 5435 (Two lines).
Manchester: City 1638.
Edinburgh: Central 53.
Paris: 141—12.
Brussels: 119—71.

Telegraphic Addresses :

"Berner, Grace, London."
"Berner, Manchester."
"Berner, Edinburgh."
"Nielsen, Paris."
"Bernielsen, Brussels."

MANCHESTER:
38, Deansgate.

PARIS:
24, Rue de Milan.

BRUSSELS:
28, Galerie de la Reine.

EDINBURGH:
13, George Street.

WOOD PULPS

Improvements in Calender Bowl Manufacture.

**Paper Bowls Built up on Patent
:: Anti-Slipping Principle. ::**

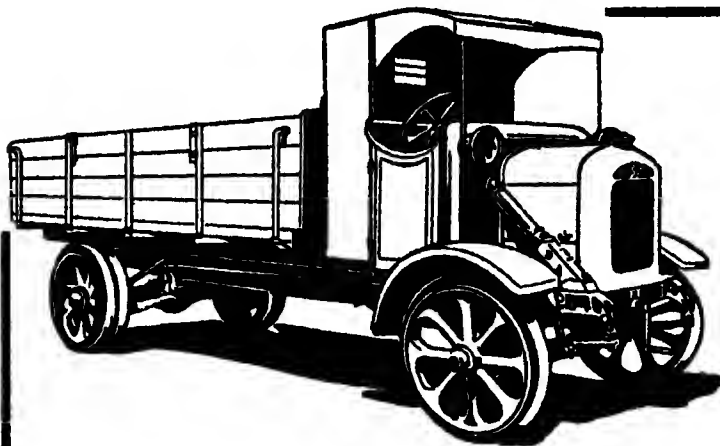
An Absolute Necessity for Wide Bowls.

**JACKSON & BROTHER, Limited,
Engineers and Calender Bowl Makers,
WHARF FOUNDRY, BOLTON.**

Telegrams:—"JACKSON, BOLTON."

Telephone:—No. 34 BOLTON.

Representative:—A. E. LEICESTER.



DIMENSIONS.

Wheel Base	-	-	14 ft. 6 ins.
Loading Space	-	-	15 ft. 8 ins.
Width Over-all	-	-	7 ft. 2 ins.
Total Length	-	-	22 ft. 8 ins.
Wheel Track	-	-	6 ft.

For Goods: 3-5 tons.

WRITE FOR OUR "A" TYPE CATALOGUE.



*The Sign of
Strength and Stability*

The Straker-Squire "A" type 55 h.p., 3-5-ton vehicle is of entirely new design, possessing great strength and power. Manufactured on sound technical lines with up-to-date machinery, and assembled by experts with the greatest skill, it is offered to the public at a reasonable price and with a substantial guarantee.

STRAKER-SQUIRE

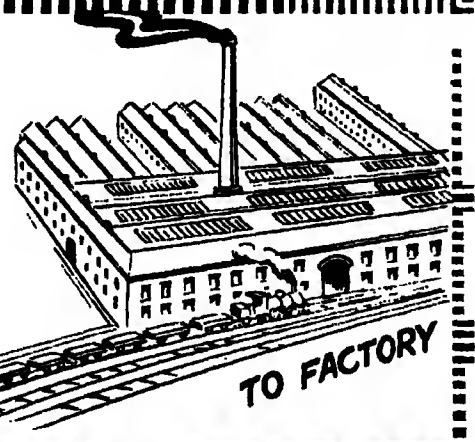
LTD.

**64, Angel Road, Edmonton,
LONDON, N.18.**

Telephone: Tottenham 2393 (10 lines).
Telegrams: "Rhomboidal, Tottenham, London"



SEND FOR
SAMPLES
OF OUR
COATING
CLAYS



CHINA CLAY

ALL GRADES *FOR* PAPERMAKERS

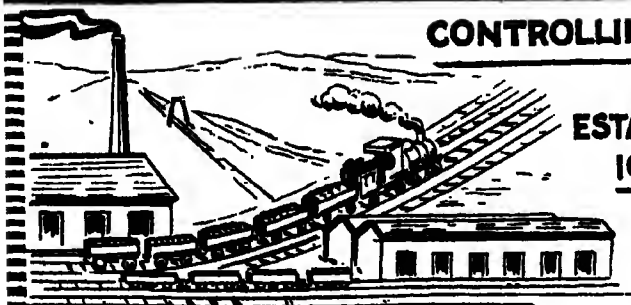
H.D. POCHIN & CO LTD

CHINA CLAY
MINEOWNERS. &
CHINA STONE
QUARRYOWNERS.

MANCHESTER

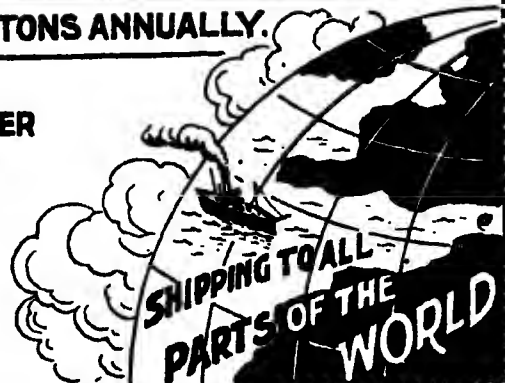


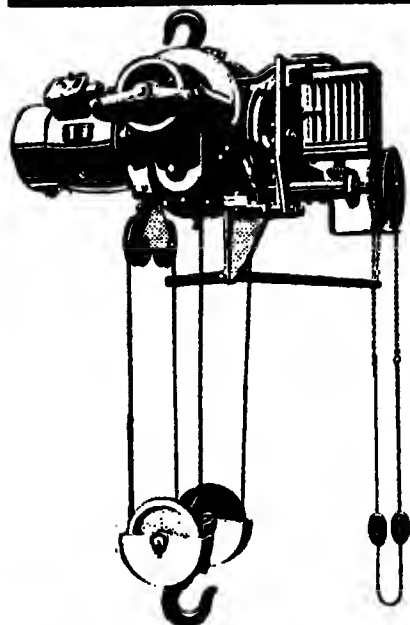
CONTROLLING 200,000 TONS ANNUALLY.



FROM MINE

ESTABLISHED OVER
100 YEARS.





THE VAUGHAN PATENT ELECTRIC BLOCK

SPEED-UP YOUR LIFTING WORK

THE VAUGHAN ELECTRIC BLOCK exactly satisfies a want which has been long felt in the Paper Making and Allied Industries, i.e., the need for a reliable, self-contained, and power-driven hoist, which can be slung up anywhere ready for instant use on the connection of a flexible supply cable, or when fitted to a trolley, for travelling on the bottom flange of an overhead "I" section runway track.

STANDARD SIZES:

5-Cwts., $\frac{1}{2}$ -Ton, 1-Ton, $1\frac{1}{2}$ -Tons, 2-Tons, 3-Tons and 4 $\frac{1}{2}$ -Tons.
Supplied for D.C. or A.C. 2-phase or 3-phase.

IT SOON PAYS FOR ITSELF. A LABOURER CAN WORK IT.

Please ask for our Descriptive Booklet No. 7.

THE VAUGHAN CRANE Co., Ltd.

(FORMERLY VAUGHAN & SON, LTD.)

OPENSRAW, S. MANCHESTER.

Also Makers of Electric and Hand Power Travelling
Cranes, Overhead Runways, Hand Pulley Blocks, etc

Telegrams "VAUGHAN, MANCHESTER."

Telephone 250 OPENSRAW, 5113 CENTRAL.

A FEW USERS.

The Admiralty	London
The War Office	London
The India Office	London
The Ministry of Munitions	London
Darwen Paper Co., Ltd.	Darwen
Dixon, Peter & Co., Ltd.	Gainsby
Dickinson, J. & N., Ltd.	Hemel Hempstead
The Empire Paper Mills, Ltd.	Greenhithe
Irish Paper Mills Co., Ltd.	Dublin
Speer, James, & Sons, Ltd.	Malton
Thames Paper Co., Ltd.	Purfleet
Wallpaper Manufacturers, Ltd.	London
Etc., Etc.	

The "PROCTOR" Shovel Stoker and Patent Ram Feed Coal Elevator.

AN IDEAL COMBINATION for SAVING COAL AND LABOUR, increasing steam production, and giving a clean boiler-house. The Stoker as a result of over 40 YEARS' practical working HOLDS THE PREMIER POSITION amongst Mechanical Stokers, and gives the HIGHEST BOILER EFFICIENCY WITH THE LOWEST COST OF UPKEEP.

OVER
16,000
FURNACES
FITTED.

Messrs. OLIVE & PARTINGTON

AND

KELLNER-PARTINGTON PAPER PULP Co., Ltd.,

have adopted the "PROCTOR" Stoker and Coal Elevator at their
TURN LEE PAPER MILLS, GLOSSOP on 20 furnaces
BROUGHTON BRIDGE PAPER MILLS, MANCHESTER 8 ..
BARROW-IN-FURNESS PAPER PULP WORKS 16 ..

AND ALSO AT THEIR PAPER WORKS IN AUSTRIA.

BURNLEY PAPER WORKS CO., LTD. 4 ..
HENDON PAPER WORKS CO., LTD., SUNDERLAND 8 ..
NORTH WALES PAPER CO., LTD., FLINT 6 ..
YATES, DUXBURY & CO., LTD., BURY 4 ..

JAS. PROCTOR, Ltd., Hammerton Street Iron Works, Burnley

Direct Current MOTORS



British built throughout.

Sound in construction, ensuring freedom from breakdown.

High in efficiency and free from commutation troubles.

Represent the latest practice as we make nothing else.

Competitive in price.



Electromotors
Limited

OPENSHAW MANCHESTER

CLARKE, CHAPMAN & CO. LTD.

— Victoria Works —

GATESHEAD

General and Electrical Engineers and Boiler Makers

Water Tube Boilers ("Woodeson" Patents)

FOR ALL DUTIES

Pumps ("Woodeson" Patents)

IN ALL SIZES AND FOR ALL PURPOSES

Prices, Particulars and Catalogues on application

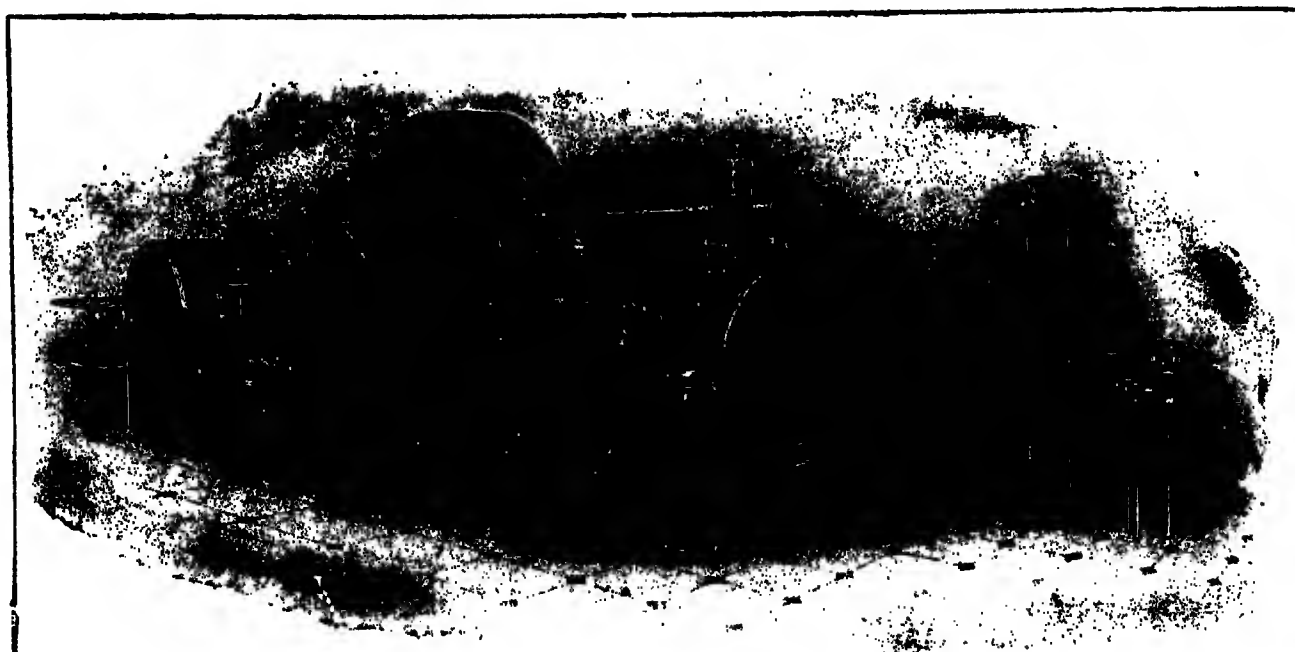
Telephones: 1070-1075 CENTRAL NEWCASTLE.
157 CITY

Telegrams
"CYCLOPS, GATESHEAD."
"CYCLOPS, FEN, LONDON."

JOHN MUSGR

**Globe Iron Works,
BOLTON.**

Tel. Address :
"MUSGRAVE, BOLTON."
Codes : { A1,
A.B.C. 5th Edition,
BROOMHALLS.
Telephone No. 590 (3 lines).



For Economy, Reliability, and Compactness in Design, the
"UNAFLOW"
 Patent Steam Engine is the ACME OF PERFECTION.

Before deciding your Order send for our Descriptive Pamphlet.

Also
Makers of
**HIGH-
CLASS**

Horizontal and Vertical Steam Engines,

Fitted with "Stegan Patent" Equilibrium Drop Piston Valves, specially adapted for High Pressures and Highly Superheated Steam, with LOW Steam Consumptions, or fitted with Corliss Valves.

Lancashire Boilers, Up to 225 lbs. Pressure.

Condensing Plants,

Superheaters, Millgearing,

Pumping Plants, etc.,

The "Musgrave-Zoelly" Steam Turbine,

Over 500,000 h.p. at work.

VE & SONS LTD.



Makers of SPECIALITIES for PAPER-MAKERS

Vertical Wood Digesters.

Spherical Wood Pulp Digesters.

**Cylindrical and Spherical Revolving Boilers for Rags
and Straw.**

Vertical Boilers for Esparto.

Steam Chests for Anaglypta Paper Machines.

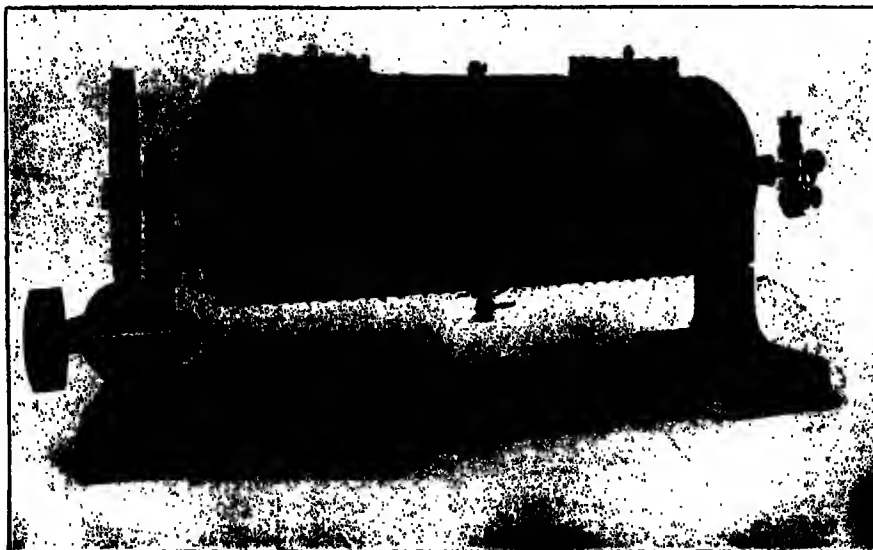
Caustic Pans.

**Cased Pans
and Tanks.**

Lord's Patent Manholes

For Cylindrical and
Spherical Revolving Boilers.

**YOUR ENQUIRIES
ARE SOLICITED.**



"THE CHINA CLAY TRADE REVIEW."

*The Official Organ of the
China Clay Industry.*

Published the 15th of each month.

PRICE 6d.

**Post Free British Isles, 7/6.
Colonies and Abroad, 10/6.**

The only monthly journal devoted to the interests of all engaged in the CHINA CLAY, AND STONE, BALL CLAY, FELSPAR AND ALLIED INDUSTRIES, and circulating amongst Potters Paper-makers, Chemical Manufacturers, Manufacturing Chemists, Bleachers, and other users.

PUBLISHING OFFICES :

9-10, SOUTHAMPTON BUILDINGS, HOLBORN, W.C.2.

DYESTUFFS FOR PAPER TINTING.

Auramine O. Methylene Blue BB.
Ponceau R. Acid Scarlet 2R.
Orange 11. Chrysoidine.



**SANDOZ
THE
SANDOZ CHEMICAL CO.
LIMITED.**

9, VICTORIA CHAMBERS,
LITTLE HORTON LANE,
BRADFORD, YORKS.

24, TIB LANE,
CROSS STREET,
MANCHESTER.

(Sole Consignees in Great Britain for Sandoz Chemical Works, Basle.)

Agents:

LONDON: Skilbeck Bros., 205 Upper Thames Street, E.C.4.
GLASGOW: Charles Hogg & Co., 9, Royal Exchange Square
LEICESTER: A. W. Brook, 36, Charles Street.

S. C. PHILLIPS & CO.'S STANDARD PUBLICATIONS

**THE PAPER MAKER and
British Paper Trade Journal**

with which is incorporated

THE WOOD PULP MAKER.

An Independent and practical Journal for the Paper, Wood Pulp and Allied Engineering Trades.

Published on the 1st of each month. Price 1s. 6d.; by post, 2s.
Annual Subscription, £1 1s., post free.

THE STATIONERY WORLD

**Printing and Allied Trades
and Fancy Goods Review,**

with which is incorporated

The Toy World and Games and Sports Record.

An Independent organ specially devoted to the Stationery, Printing, Toy, Fancy Goods and Allied Trades.

Published on the 1st of each month. Price 1s.; by post, 1s. 2d.
Annual Subscription, 10s. 6d., post free.

THE PAPER BOX & BAG MAKER

Including

The Bookbinders' Journal.

The only Journal specially devoted to the Paper Box, Bag Making and Allied Trades.

Published on the 15th of each month. Price 1s.; by post, 1s. 2d.
Annual Subscription, 10s. 6d., post free.

PHILLIPS' PAPER TRADE DIRECTORY OF THE WORLD

A mass of information for all engaged in the paper trade. Published Annually. Subscription, price £1 1s.

Offices : 47, Cannon St., E.C.4.

ANDREWS & CO.,

LIMITED,

BLACKFRIARS HOUSE, NEW BRIDGE ST.

 **LONDON, E.C.4.**

And at Manchester and Glasgow.



**Sulphite, Soda, and
Mechanical . . .**

WOOD PULP



Telegraphic Address : "ARBORARIUS," Fleet, London.
Telephone Numbers : City 5013 & 5014.

Telegrams:

ELYOR, ADISHEAD."

Telephone: No. 68, URMSTON,
and 6718 MANCHESTER.



Engineers and
Specialists,

**IRLAM, NEAR
MANCHESTER.**

SPECIALITIES:

FEED WATER HEATERS (Live and Exhaust Steam).

BOILING BATTERIES (Far Superior to Coils).

AIR HEATERS (For Drying Paper, Cloth, Yarn, &c.).

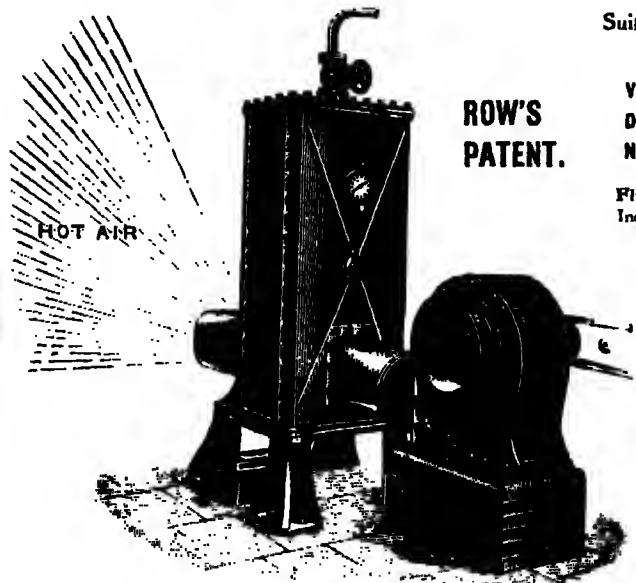
STEAM & GAS KETTLES (Boiling automatically controlled). **STEAM TRAPS.**

REDUCING VALVES.

AUTOMATIC RECEIVERS & PUMPS.

WATER SOFTENING & FILTERING.

AIR HEATERS.



**ROW'S
PATENT.**

Suitable for the Highest
Steam Pressures.

**VERY COMPACT.
DUTIES GUARANTEED.
NO LEAKY JOINTS.**

Fitted with Row's Patent
Indented Steel Tubes.



**ROYLES PATENT
COMBINED
REDUCING AND
SAFETY VALVE.**

At the Price of
Reducing Valve only.

ABSOLUTELY RELIABLE.

THOUSANDS IN USE.

All Sizes in Stock,
from 1-in. upwards,
for all pressures.

ROYLE'S PATENT "SYPHONIA" STEAM TRAP.

Simple, Reliable, Self-Adjusting.
at all pressures from 0 to 200 lbs.

Over 125,000 Sold.
Hundreds in Stock



All Sizes from 1/2-in. to 3-in.

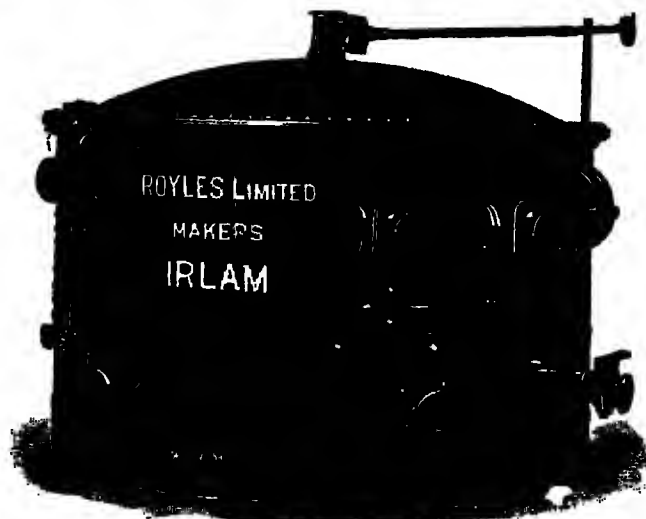
ROYLES GRAVEL FILTER.

**SIMPLE WORKING.
EASY CLEANSING.
NO ROTATING ARMS.
NO POWER REQUIRED.**

The Most Efficient and Reliable Filter
for Continuous and Repeated Filtration
of Turbid or Muddy Water.

FILTERING MATERIAL NEVER REQUIRES RENEWAL.

**WATER SOFTENING,
IRON REMOVING, and
DE-OILING PLANTS.**



WRITE FOR LISTS AND REFERENCES.

OVER 5,000 PLANTS IN ACTUAL WORK GIVING ENTIRE SATISFACTION.

Belgian State Railways and Mail Packet Service**Dover - Ostend Royal Mail Route****DAILY EXPRESS SERVICES** (Sundays Included)**LONDON & BRUSSELS**

ANTWERP, COLOGNE, LUXEMBOURG, etc.,

*Via DOVER-OSTEND***SEA PASSAGE BY THE BELGIAN GOVERNMENT'S FAST TURBINE STEAMERS**

The 24 Hours System for Railway Time (reckoning the hours from midnight to midnight) is used for all the Railway Times shown in this notice

OUTWARDS			HOMEWARDS		
	1 2 & 3	class		1 2 & 3	class
London (Charing Cross)	dep	8 45	Brussels	dep	17 9
Dover (Marine Station)	arr	10 25	Strasbourg	dep	20 12
	dep	11 30	Luxembourg	arr	8 29
Ostend (Quay)	arr	11 30		dep	4 35
	dep	15 45	Cologne	dep	21 30
Brussels Nord	arr	19 10	Antwerp	dep	8 0
Antwerp	arr	21 22	Brussels (Nord)	dep	10 30
Cologne	arr	1 49	Ostend (Quay)	arr	15 0
Luxembourg	arr	1 0		dep	14 0
Strasbourg	dep	5 0	Dover (Marine Station)	arr	18 0
Brussels	arr	7 35		dep	19 0
Brussels	arr	8 41	London (Charing Cross)	arr	20 50

The above Services are liable to all variation or cancellation without previous notice in the event of a Summer Time both British and Belgian

Through Carriages Ostend to Antwerp Cologne Luxembourg and vice versa
Sleeping Cars from Ostend to Cologne and vice versa

For further information apply

Mr P. DEFRANCE, Delegate of the Belgian State Railways,
47 Cannon Street London E.C.4. Telephone No 5711 Central
For information and tickets apply to the Ticket Office of the Belgian State Railways and
Mail Packet Service, 55, Gracechurch Street, E.C.3, or to the principal tourist agents
in the United KingdomFor information regarding devastated districts in Belgium apply to the Office
General d'Informations, 54 Rue des Colours, Brussels**SOCIETY OF CHEMICAL
INDUSTRY,****BASLE - - SWITZERLAND.****Largest Manufacturers
of Aniline Colours
outside Germany.****EMPLOYING OVER 3000 PEOPLE****SPECIALITIES FOR PAPER.****SEND YOUR SAMPLES OF COLOUR FOR MATCHING
TO THEIR AGENTS****THE****CLAYTON ANILINE****CO., LTD.,****CLAYTON - - MANCHESTER.****ANILINE DYES****SPECIALITIES FOR PAPERMAKERS.**

ACID YELLOW 1 D
 NATURAL YELLOW 5
 ORANGE
 RR
 I
 II
 Ponceau 4GB
 2G
 R
 5R
 FAST RED B
 CRYSTAL SCARLET
 INDIGO CARMIN
 MAGENTA
 METHYL VIOLET
 MALACHITE GREEN
 IR

**THE LONDON DYE
- MANUFACTURING CO., LTD., -
86-94, High St., STRATFORD, E.15.**

Telephone: Stratford 1851

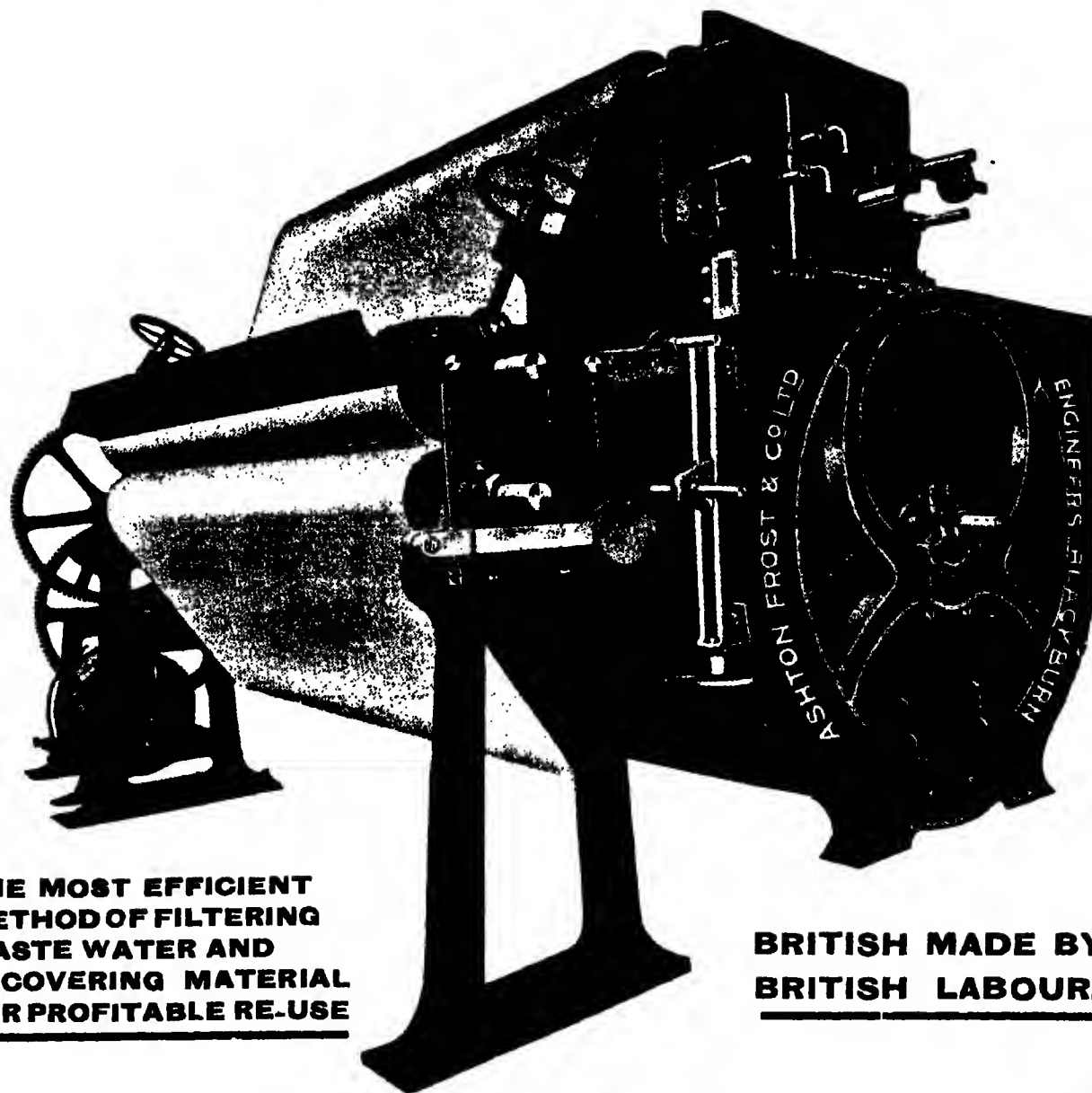
Telegrams: LODYNAKO BOURBURN LONDON

DON'T WAIT**Until the War is over.**Now is the time to do **BUSINESS WITH SCANDINAVIA**, where trade especially in Paper and Wood pulp has received an enormous impetus on account of the War and where everyone is on the lookout for opportunitiesAn advertisement in a good Scandinavian Paper and Wood pulp Journal would help you **IF YOU ARE AN AGENT**, an advertisement would make your name more widely known throughout the trade in Scandinavia or **IF YOU ARE A MANUFACTURER OF MACHINERY OR PAPER-MAKERS' SUPPLIES** it would help you to get a good share of the Scandinavian Trade**THE****"TIDSSKRIFT FOR PAPIRINDUSTRI"**

is published in Christiania Norway and circulated throughout the trade in Norway Sweden Denmark, and Finland and is also subscribed to by a number of English and American Firms

WRITE FOR ADVERTISING RATES AND A SPECIMEN COPY.*Information regarding the Scandinavian Markets furnished gratis***LONDON OFFICE****GUMÆLIUS LIMITED,****SCANDINAVIAN ADVERTISING SPECIALISTS,
11, Arundel Street, Strand, London, W.O.2.**

PATENT FÜLLNER FILTER AND SAVE-ALL



**THE MOST EFFICIENT
METHOD OF FILTERING
WASTE WATER AND
RECOVERING MATERIAL
FOR PROFITABLE RE-USE**

**BRITISH MADE BY
BRITISH LABOUR.**

DELIVERY FROM STOCK.

**ASHTON FROST AND Coy., Ltd.,
ENGINEERS,
BLACKBURN - - ENGLAND.**

W. RALSTON & CO.

LTD.,

CLOUGH ROAD WORKS,
MOSTON LANE, MANCHESTER.

Telegram: "RALSTONITE, MANCHESTER." Phone: 551 CHEETHAM HILL.

MANUFACTURERS OF

**Kraft Union Waterproof
Patent Packing,
Waxed Tissues,
Oil Papers,
Pitch Papers,
Etc. Etc.**

IN SHEETS OR ROLLS IN ALL STANDARD SIZES,
also in NARROW WIDTH REELS AND CIRCLES

SAMPLES AND PRICES ON APPLICATION

London Office:
30, BUDGE ROW, E.C.4.
(Phone: CITY 8633).

*No Expensive Plant
Involved in Installation*

WESTINGHOUSE

AIR COMPRESSORS

will run practically without attention, and
MAY BE RELIED UPON
TO FURNISH A CONTINUOUS SUPPLY
OF
COMPRESSED AIR.

If fitted with an Automatic Governor, the
Compressor will run continuously with no
attention beyond periodical replenishment
of the lubricators.



Manufactured in London by
THE WESTINGHOUSE BRAKE CO. LTD.,
82, York Road, King's Cross, London, N.1.

Telegrams: Kraftship, Manchester.
Telephone City 2458.

WESTWELL, Ltd.

Paper Importers
and Exporters,

Lloyds Bank Bldgs.,
King Street,
Manchester.

Wrappings

Krafts,
Sulphites,
Greaseproofs,
in Sheets or Reels.

LONDON OFFICE:—

97, Queen Victoria Street, E.C.4.

Telegrams:—Papimpex, Cent, London.
Telephone—Central 8007

Telephone - - City 6115
Telegrams - - Anglonorse, Cent, London

ANGLO-NORSE PAPER AGENCIES LTD.

VULCAN HOUSE, 56 LUDGATE HILL
LONDON - - - - - E.C.4

Manager: F. A. MARSDEN

Sole Agents in the United Kingdom for
RENA KARTONFABRIK,
A/S RENA, NORWAY.

WOODPULP BOARDS FOLDING BOARDS,
DUPLEX AND TRIPLEX BOARDS.

Sole Agents (except Scotland) for
JARLSBERG PAPER MILLS,
CHRISTIANIA.

M/F & S/C PRINTINGS. WRITINGS.
BANKS. GLAZED AND UNGLAZED.
BONDS. IMITATION PARCHMENTS.

Sole Agents in England for
STANDARD PAPIRINDUSTRI,
A/S GULSKOGEN, NORWAY.
TOILET ROLLS.

**NOW
ON
SALE**

**PHILLIPS'
Paper Trade Directory
OF THE WORLD**

**FOR
1920.**

**Published
at**

21/-

by

S. C. PHILLIPS & CO., 47, Cannon Street, London, E.C.

ORDER AT ONCE TO PREVENT DISAPPOINTMENT!

PRICE & PIERCE, Ltd., LONDON.

WOOD AND PULP.

*Branches:—*Liverpool, Manchester, Glasgow and New York.

SITES for WORKS, FACTORIES WAREHOUSES, etc. ADJOINING THE G.W.R.

Numerous areas of land, admirably situated.

Good Water Supplies. Proximity to Good Markets.

This Railway is connected with some of the largest Steam, Anthracite, and House Coal Fields, many of the Principal Ports, and important and extensive Iron and Steel Producing Centres.

Information as to suitable sites, siding facilities, conveyance rates, etc., will be readily afforded on application to Mr. C. A. ROBERTS, Chief Goods Manager, Paddington Station, London, W.2, to whom Owners and Agents of Land and Premises for Sale or to be Let are invited to send particulars for insertion in the Register which is kept to enable information to be furnished to parties requiring sites, etc

G.W.R. Paddington Station, W.2.
November, 1916.

CHAS ALDINGTON, General Manager.

From Barrel to Beater



**AMBER
SIZE**

Mr. R. W. SINDALL, F.C.S., says:

"This is about the best prepared Size I have seen."

WE guarantee a saving in any case—
whether you are making your own Size,
OR

Whether you are making your size by any patent
apparatus, OR

Whether you are buying a prepared Size.

We send our Expert to your Mill to prove this. He will
demonstrate the advantages, and show you how it is used.

We supply sufficient AMBER SIZE for the trial FREE OF CHARGE. We
take all responsibility for the Paper Sized with AMBER SIZE by our Expert

Sole
Agents: **FOX, STOCKELL & CO.,**
61, ST. MARY AXE, LONDON, E.C.

ADOPTED BY LEADING MILLS
because of the saving effected

CASEIN

FOR PAPER COATING.

NIEUWHOF, SURIE & CO., LTD.,

Head Office :

5, Lloyds Avenue,
London, E.C. 3.

Telephones :
AVENUE 34 & 35.

Works & Warehouses :

Aldgate Avenue,
London, E.

Telegrams :
"SURICODON, CENT LONDON"

Keep Your Wires Clean !!

Our **ROTARY CLEANING ATTACHMENT** for Paper Machine Wires is simple, efficient, and cleans wire whilst machine is running. Many in use, Write for particulars.

BRUSHES

for Art Tinfoil and
Coated Paper Makers

COATING AND STAINING BRUSHES
CIRCULAR-FEED BRUSHES
PAPER-DAMPING BRUSHES
BRUSHING & POLISHING CYLINDERS

John Dawson & Son

Eldon Brush Works, St. Philip St., LEEDS

THE Indentors' Guide

Pays Advertisers.

IF you wish to introduce your new products in

INDIA

or to increase the sale of your Old Products
Advertise in "THE INDENTORS' GUIDE,"
IT BRINGS RESULTS.

Its Special Feature is that Advertisers' Goods are
accepted in Contra, placed on the Market to
Advantage and Repeat Orders are regularly sent.

For Sample Copy and Rates address—

S. P. MASON, Bangalore, INDIA.

London Agents: STIRLING, MASON & CO., 114 Fenchurch Street, E.C.

L'Industria Della Carta:

via Principe Umberto, 24, MILAN

A Practical Journal for the Manufacture
of Paper and the Graphic Arts. ::

THE ONLY TECHNICAL JOURNAL THAT IS PUBLISHED IN ITALY.

It is recommended as being greatly appreciated
and having a wide circulation :: ::

The Editor-Proprietor, Mr. ENRICO TONIOLO, Milan, devotes him-
self specially to the sale of **MACHINES & MATERIALS**
connected with the manufacture of Paper and the Graphic Arts.

Catalogues and Offers Gladly Received.

GEO. F. HARDY,

Mem. Can. Soc. C. E., M. Am. Soc. M. E., Mem. Eng. Inst. Can.

PAPER MILL ARCHITECT

AND

HYDRAULIC ENGINEER.

REVALUATIONS. REPORTS.
WATER POWER DEVELOPMENTS.

309, Broadway, New York,
U.S.A.

HARDY S. FERGUSON,

CONSULTING ENGINEER,

200, FIFTH AVENUE, NEW YORK CITY.

MEMBER Am. SOC. M. E.

MEMBER Am. SOC. C. E.

MEMBER Eng. INST. CAN.

Paper, Pulp and Fibre Mills
including Buildings and Com-
plete Mechanical Equipment.

Water Power Development.

Dams, Storage Reservoirs and
Other Hydraulic Structures.

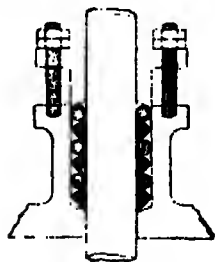
EXAMINATIONS
REPORTS

ESTIMATES OF COST

DESIGNS

SPECIFICATIONS

VALUATIONS



Patent Pactite Pump
Packing.

Patent Metallic Face
Steam and Hydraulic
Packing and Jointing
Materials.

SOLE MAKERS:

S. REDFERN & CO.,

Swan Lane, New Brown Street, MANCHESTER.

Telephone No.:
1134 CITY.

Telegraphic Address:
"METALLINE."

BOLETIN DE LA INDUSTRIA Y COMERCIO DEL PAPEL.

A fortnightly Spanish Review of Paper-making and Trade generally.

The best Spanish Paper Review (prodigiously illustrated), is published
on the 1st and 15th of every month, in 194 by 264 cm. size, with
more than 60 pages of letterpress on superfine glazed art paper.

Subscription price 15 fr. per year.

Terms for Advertising can be obtained upon application to our
representatives for the United Kingdom, viz.:-

S. C. PHILLIPS & CO.,

Publishers of "THE PAPER-MAKER,"

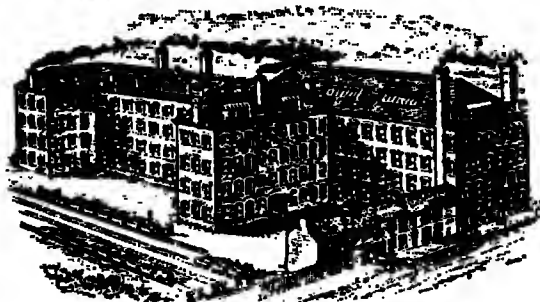
47 CANNON STREET, LONDON, E.C.

Established 1858.

JEBB BROTHERS, Ltd.,

**IMPORTERS and
EXPORTERS.**

ADDITIONAL WAREHOUSES: BUXTON ST., CRAWHALL RD., CITY RD.



HOWARD ST. WAREHOUSE.

Head Office :

**32, Howard Street,
Newcastle-on-Tyne**

Warehouses :

**HOWARD STREET, CITY ROAD,
AND CRAWHALL ROAD.**

YORKSHIRE

WOOLLEN RAG DEPT. :

**Carr Top Mills, Batley Carr,
Batley, Yorks.**Telegrams :
Jebb, Newcastle-on-Tyne.
Jebb, Dewsbury.
Jebb, North Shields.Telephone Nos.
3325 and 3326
CENTRAL, NEWCASTLE.
342 NORTH SHIELDS.
33 DEWSBURY.CODES :
A.B.C. 4th, 5th, and 6th EDITIONS
and WASTE MERCHANTS' Code.

DEPARTMENTS.

WOOLLENS.New and Old Mungo and Shoddy
Rags, Cloth, Blockings, Merinos,
Serges, &c.**WASTE RUBBER, ETC.**All Grades of Waste Rubber,
Curled Hair, Hair Sealing, Second-
Hand Bags, Etc., Etc.**METALS.**Scrap Brass, Copper, Lead, Zinc,
Tin and Lead Ashes, Scrap Iron
and Metals.**PAPER-MAKING MATERIALS.**New and Old Linen and Cotton
Rags, Bagging, Ropes, Twines,
Canvas and Waste Paper.

NO CONNECTION WITH ANY OTHER FIRM.

Having extensive warehouse accommodation, equipped with all modern requirements for dealing expeditiously with large quantities of goods, at Newcastle-on-Tyne (Station address, New Bridge Street), and Batley Carr, Yorkshire (Station address, Dewsbury), customers may rely upon their consignments, whether large or small, receiving prompt attention.

Dealers in Lancashire, Cheshire, and the Midland and Southern Counties, should consign their Woollen Rags of all descriptions to our Yorkshire Mungo and Shoddy Rag Department, Carr Top Mills, Batley Carr, Batley.

NOTICE.

We require live correspondents in all countries where PAPER and PULP is manufactured (excepting where already represented). Address all communications to :— S. C. PHILLIPS & CO., Head Office, 47, Cannon Street, London, E.C.4.

Edward Rushton, Son & Kenyon,

Auctioneers, Valuers and Fire Loss Assessors,

13, NORFOLK STREET, MANCHESTER.

(Established 1853.)

Telephone Nos. : 775 City and 5633 City

Telegrams : "Rushtons, Auctioneers, Manchester."

Undertake VALUATIONS FOR INSURANCE, and other purposes.

FIRE LOSS SETTLEMENTS

(On behalf of Assured only).

SALES BY AUCTION

of Mills, Works, Plant and Machinery and all work in connection therewith.

Average Yearly Valuations exceed £10,000,000.

Full Staff of Trained Expert Assistants employed.

R. R. WHITEHEAD & BROS., LTD.

Established 100 Years.

Manufacturers of every description of

FELTS

Telephone :

No. 63, Mossley.

Telegraphic Address :

"Whiteheads,
Greenfield, Oldham."

for Paper Makers.

Royal George Mills, GREENFIELD, near OLDHAM.

AXEL H. ÅGREN, GOTHENBURG, SWEDEN,

General Merchant and Forwarding Agent.

IMPORT OF IRON, STEEL AND METALS, CHEMICALS.

Telegrams : "Å. GREN, GOTHENBURG."

ESTABLISHED 1887.

DANDY

PAPER
MACHINE
WIRES
PLAIN &
TWISTED
PRESSE PATE
WIRES
BACKING
SIEVING &
WASHER
WIRES
DANDY
ROLLS Etc

PAPER MACHINE WIRES.

F & G. W. STONIER & CO. LTD

(Lancashire Wire Works)

Wire Manufacturers and Weavers

**HARRIS ST. STRANGEWAYS
MANCHESTER**

ROLLS.

TELEGRAMS
INTERWEAVE
TELEPHONE
CENTRAL
5079
CODES ABC
5th EDITION

Fullerton

MANUFACTURERS OF
EVAPORATORS
(FOSTER'S PATENT)
FOR
CAUSTIC SODA RECOVERY



Triple Effect and Finisher fitted with Multiple Feed Heaters

These Evaporators being cast in our own Foundry we are in a position to give good delivery.

Illustrated Catalogue on application

Fullerton, Hodgart & Barclay, Ltd.

PAISLEY

Telegrams: "Vulcan, Paisley."
Codes: A.R.C. 5th Edition:
Engineering; Western Union;
Marconi Inter.

ESTABLISHED 1838.

Telephones: 2163 & Paisley.
Private Branch Exchange.

WRITE OR 'PHONE CENTRAL 426 & 427.

CABLES AND TELEGRAMS: "FETHPAPMIL, FLEET, LONDON."

HENRY FEATHERSTONE**13, WHITEFRIARS STREET, FLEET STREET, LONDON, E.C.4****Paper Agent and Merchant.***Specialities:* NEWS & SUPER-CALENDERED PAPERS in REELS or REAMS**EDWARD KEMPSTER & SONS, Ltd.,**
GEORGE STREET, BURY, LANCS.**Engineers and
Brassfounders.****Specialities:**
**PHOSPHOR BRONZE and
GUN METAL CASTINGS.****PUMPS, VALVES, AND PAPER MACHINE ACCESSORIES.**

Telegrams: "Kempster, Bury."

Telephone: 96 Bury.

"BON ACCORD"
CENTRIFUGAL PUMPS**Any Capacity and Head, and for all purposes.**

Driven by STEAM ENGINES (open and enclosed), ELECTRIC MOTORS, OIL ENGINES, BELTS, &c.

HIGH-SPEED ENGINES (open and enclosed types)
FOR DRIVING DYNAMOS, FANS, &c.

The "BON ACCORD" PUMP is specially adapted for Pumping Paper Pulp, Thick Viscous Liquids, &c.

DRYSDALE & Co., Ltd., YOKER, GLASGOW.

Telegrams: "Bonaccord, Glasgow."

Write for Catalogue.

MONTHLY EDITION IN ENGLISH.
WEEKLY EDITION IN SWEDISH.SUBSCRIPTION: £1 PER ANNUM.
POST FREE.**The "Mercator,"****A Journal devoted to Finland's Industry and Trade, is
the Best Advertising Medium in Finland, with its
large Home and Foreign Circulation.****"MERCATOR" OFFICE, NYLANDSGATAN 3-5, HELSINGFORS.**

CHINA CLAY (KAOLIN)

**For Paper-Making, Coating
and Chemical Manufacture.**

THE WEST CARCLAZE CHINA CLAY CO., LTD.,

Telegrams—
"PORCELAIN,
ST. AUSTELL."

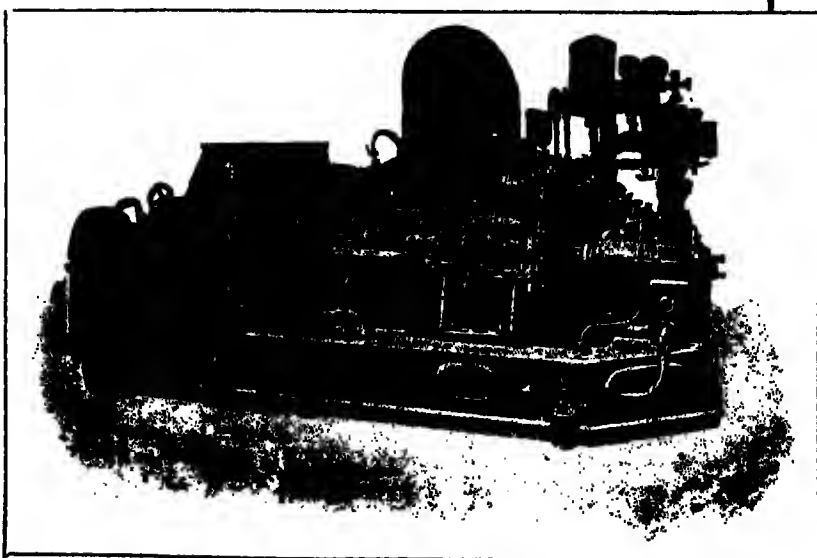
**China Clay Mine Proprietors,
ST. AUSTELL, ENGLAND.**

STEAM TURBINES

for ALL PURPOSES AND STEAM CONDITIONS

WE make a special
feature of Tur-
bines for Back Pressure
Work, with whole or
partial delivery of
steam against pressures
up to 60lbs. per sq. in.
Prices and particulars
on application.

Early Delivery.



PETER BROTHERHOOD, LIMITED
PETERBOROUGH

BENTLEY & Paper Maker BURY

Telegraphic Address : "CALENDER, BURY."

Telephone No. : 340 BURY.

Codes Used : A I, A B C (5th) and Western Union.

SPECIALITIES.

Temperley & Wild's Breaking
Engine.

Marshall's Perfecting Engine.

Nuttall's Rag Cutters.

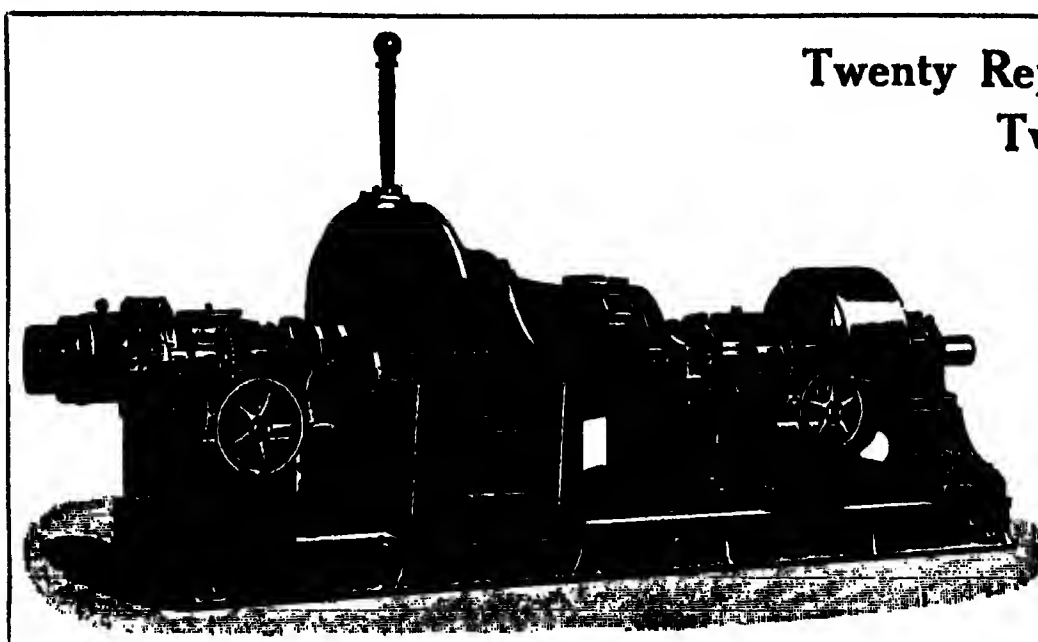
Reinecke & Jasper's Revolving
Strainer.

Coburn-Taylor Re
Millspaugh Suction
Spray Pipe.

Smith's Vibrating

Seddon's Shake R

Barnes's Spray D



Twenty Repeat Orders
Twelve Months

"MARS"
REFILL
ENGIN

& JACKSON

s' Engineers,

Limited

Y NEAR
MANCHESTER.

ag Cutter.
on Roll and
Frame.
Regulator.
Damper.

in the last

"SHALL"

NING
INE.

Helin's Patented Beating Material for Beater Rolls and Bedplates.

"Marshall" Refiners and "Jordan" Engines filled with this Material are giving excellent results.

Especially successful in the beating of Kraft Papers, and Strong Papers from Sulphite, &c.

Is replacing Stone Beater Rolls in the production of Imitation Parchment and similar papers.

The Material can be fixed in existing Beater Rolls.

Send size of Roll and Bedplate, we will give price and all particulars.

John Wild & Sons, Ltd.,

SPECIALITIES:

SUPER CALENDERED PAPERS
DRAWING PAPERS - - -
FERRO-PRUSSIAN CARTRIDGE
Glazed and Unglazed IMITATION
PARCHMENT - - - - -
ENVELOPE PAPERS - - - -
BEST STAINERS - - - - -
MANILLA CARTRIDGES - - -
Glazed White WAXING PAPERS
BUTTER PAPERS - - - - -
TEA PAPERS, MIDDLES - - -
TAG OR LABEL PAPERS - -
CHROMO AND ENAMELLING
PAPERS
VARNISHING PAPERS - - -
PRINTINGS—White and Toned -
M.G. BISCUIT CAPS - - - -
BOOK COVERS - - - - -
BEST GLAZED CASINGS - -

PAPER MAKERS,

*Broad Dumers
Paper Works,*

RADCLIFFE,

Near MANCHESTER.

Telegrams: "WILD, RADCLIFFE."

Telephone: 40, WHITEFIELD.

London Agent: **Mr. HENRY BURGESS,**
15, Dowgate Hill, E.C.

MILL No. 222.

WIFSTAVARFS AKTIEBOLAG,

Telegrams:
"WIFSTA
WIFSTAVARF."

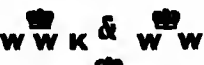



WIFSTAVARF (Sundsvall District) Sweden.

FOUNDED 1799

SALES OFFICES: **Kungsträdgårdsgatan, 10, STOCKHOLM.**

Telegrams: "WIFSTA," Stockholm.

Manufacturers & Exporters of Chemical Wood Pulp.

STRONG SULPHITE 
EASY BLEACHING Do. 
EASY BLEACHING SODA 
and STRONG SODA 

Brands Annual Production
about 55,000 tons
Brands " 22,000 "

AGENTS:

UNITED KINGDOM: PALMER, FLYGT & Co., 110, Cannon Street,
London, E.C.; and

ROB. ERIKSON & Co., Ltd., 73a, Queen Victoria St., London E.C.

FRANCE, SPAIN & PORTUGAL: LORENTZEN & GUTZIT, 12, Rue
Boissy D'Anglas, Paris.

HOLLAND: OTTO J. FABER, Prins Hendrikkade, 20-21, Amsterdam.

BELGIUM: GROSS & INGERS, 20, Courte Rue des Claires, Anvers.

The Watford Engineering Works,

Limited.

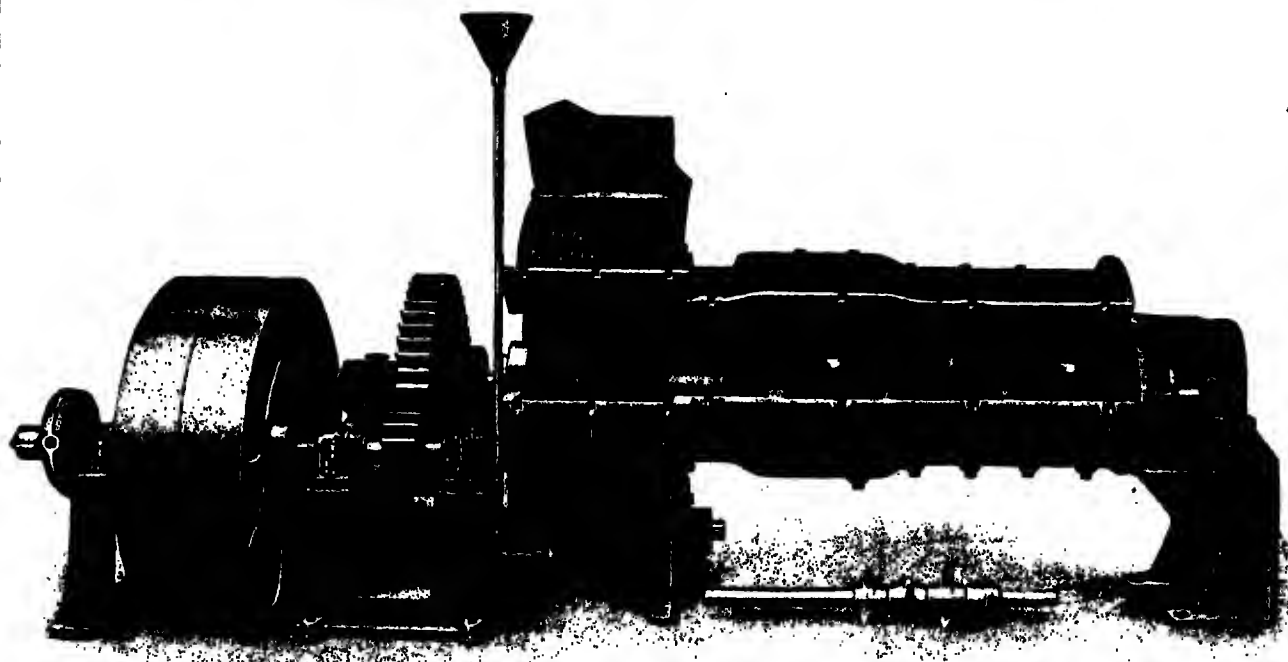
Established 1827 by Mr. GEO. TIDCOMBE, Senr.,

**PAPER MILL ENGINEERS & MILLWRIGHTS,
LOWER HIGH STREET, WATFORD.**

Telegrams: "Mechanical Watford."

Code:—5th Edition A B C.

Telephone: 35 Watford.

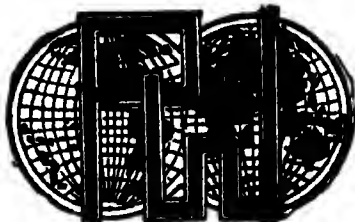


THE IMPROVED “Watford” Pulper.

STRAINERS, STRAINER PLATES, DRUMS AND
CYLINDER MOULDS OF EVERY DESCRIPTION.

SPRAY DAMPERS, SLITTERS, FROTH KILLERS,
STUFF CHEST MIXERS, PULP SHREDDERS, Etc.

"Leibers Standard, Western Union
and A.B.C. 5th Edition Codes."



PARSONS & WHITTEMORE

(INCORPORATED)

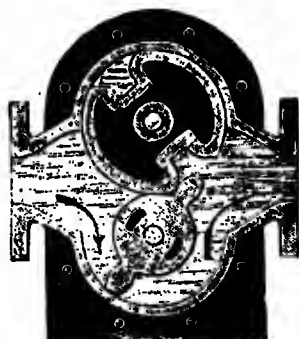
Are Buyers and Sellers of

Sulphite Pulp & all Grades of Paper & Paper Mills Supplies.

Head Office: 299, BROADWAY, NEW YORK, U.S.A.

Also At 30, MARKET STREET, SYDNEY, NEW SOUTH WALES; MELBOURNE, VICTORIA, AUSTRALIA;
SABILLA 2787, SANTIAGO de CHILE, CHILE, S.A. CALLE ALBA 307, BUENOS AIRES, ARGENTINA.
32, ST. GEORGE STREET, CAPE TOWN, SOUTH AFRICA. P.O. BOX 1307, HAVANA, CUBA. And Elsewhere.

Cable Address: "PARSWHIT."



THE 'Drum' Pump

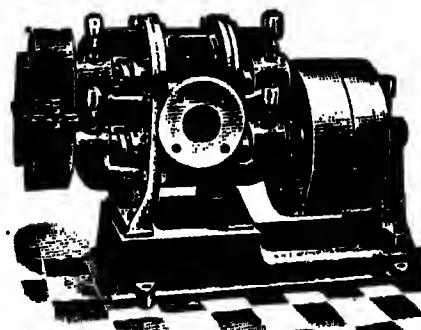
(JOHNSON'S PATENTS).

**Positive Action. High Efficiency.
No Valves.**

Fitted to the Suction Boxes of Paper Machines in
many of the leading Mills.

Telegrams—"Drum, Bradford."

Telephone No. 2358.



Write for Catalogue
No. 81 to—

DRUM ENGINEERING CO., 28, HUMBOLDT STREET, BRADFORD.

S. C. PHILLIPS & CO.'S STANDARD PUBLICATIONS.

The Paper Maker

AND

British Paper Trade Journal

WITH WHICH IS INCORPORATED

The Wood Pulp Maker.

An independent and practical Journal for the Paper,
Wood Pulp, and Allied Engineering Trades.

Published on the 1st of each month. Price 1s.; by
post, 2s. Annual Subscription, 8s. 1s., post free.

The Stationery World, Printing and Allied Trades and Fancy Goods Review,

WITH WHICH IS INCORPORATED

The Toy World & Games & Sports Record.

An independent organ specially devoted to the
Stationery, Printing, Toy, Fancy Goods, and Allied
Trades.

Published on the 15th of each month. Price 1s.; by
post, 1s. 2d. Annual Subscription, 10s. 6d., post free.

The Paper Box and Bag Maker

INCLUDING

The Bookbinders' Journal.

The only Journal specially devoted to the Paper Box,
Bag Making and Allied Trades.

Published on the 15th of each month. Price 1s.; by
post 1s. 2d. Annual Subscription, 10s. 6d., post free.

Phillips' Paper Trade Directory of the World.

Price 8s. 1s. post free to all countries (except U.S.A.).

Chief Offices:

47, CANNON STREET, LONDON, E.C.

Telegraphic and Cable Addresses: "SONICA, CENTRAL, LONDON."

A.B.C. Code, 5th Edition.

Telephone: 5420 BANK.

Branch Office: 448 and 450, Produce Exchange, Manchester.

Telegraphic and Cable Addresses: "SONICA, MANCHESTER."

Telephone: 14 CITY



Paper Coating Machines

**Carbon Paper Coating Machines
Gumming and Gluing Machines**

This machine will coat one or both sides of the paper with the exact amount
of wax desired; with finest high gloss finish on self-sealing bread wrappers, also
on both heavy or light papers; it can absorb the wax entirely into the paper or
retain most on the outside; also high grade dry waxed paper, and best grades of
waterproof and oiled papers up to 72 inches wide, at a fast rate of speed.

Please submit your problems to our Engineering Department
for solution. This service rendered cheerfully and gratuitously
implying no obligation whatever.

TYPE 40 G. Semi and Full Wax Coating Machine.
Patented in United States. Also in Great Britain, Canada and
other Countries.

MAYER COATING MACHINES CO., Rochester, N.Y., U.S.A.

Telephone Nos.—85 ECCLES.
Telegrams—"BLUE," PATRICROFT.

ESTABLISHED 1846.

Hazlewood and Sons, Ltd.,

NELSON WORKS. PATRICROFT, near Manchester.

Enquiries Solicited for Home and Export for

ANILINE COLOURS

Prussian Blues (Paste and Powder)
Indigo Blues
Refined indigo
Indigo Substitute
Indigo Extract
Ultramarines
Rosin

Smalts Blue
Carbon Black
Bark Extract
Logwood Extract
Hematine Paste and Crystals
Turkey Red Oil
Soaps

ROSIN SIZE and all Chemicals for the
Paper and Allied Trades.



THE "ROBEY" PATENT UNIFLOW ENGINE.



The advantage of the ROBEY PATENT UNIFLOW ENGINE is that, in comparison with engines of the ordinary type, even of the highest class, the clearance spaces in the cylinder are not reduced in temperature, because the steam is compelled to flow in one direction only.

This means considerably increased efficiency, and the economy obtained in a Single Cylinder Engine of the Uniflow type is equal to that of a high-class Triple Expansion Engine.

There are other points in the design which are of interest, and we should like the opportunity of sending you a copy of our catalogue.

ROBEY & CO., Ltd., Globe Works, LINCOLN

THE
INTERNATIONAL NUMBER
OF
"THE PAPER-MAKER"

Now
ON SALE

Price 3/-

Publishing Offices :
 47, Cannon Street,
 LONDON, E.C.4.

Approach

G. E. Davies & Company,

5, CROSS STREET, MANCHESTER.

for **PAPER AND PAPERMAKING MATERIALS.**

Reg. "NATSTAN." Trade Mark.

SATISFACTION GUARANTEED.

AYERS LIMITED

**LACHUTE MILLS,
 P. Q., — CANADA.**

For Home or Exportation.

Oldest and largest manufacturers
 of Paper and Pulp Machine Felt
 in Canada.

FELTS for
PULP and PAPER MAKERS

OUR SPECIALITY:

"KEK" Patent Grinding Mill

For Chemicals, Colours, Dyes, Fibres, Minerals, &c.

**Specialities: CHEMICAL PLANT, PANS, TANKS,
 VACUUM DRYERS, &c.**

THE
Chemical Engineering Co. (Manchester), Ltd.,
49, Deansgate, MANCHESTER.



LA PAPELERA ESPAÑOLA COMPANY, LIMITED.

DAILY OUTPUT OF PAPER—125,000 KILOS.

PAPER MILLS: At Aranguren, Arrigorriaga (Viscaya); Renteria (two); Tolosa (two); Illarramendi, Olarraín (Guipúzcoa); Villava, Oroz-Betelú (Navarra); Villameva del Gallego (Saragossa); Valladolid, Palazuelos (Segovia); Fuensanta (Albacete), and Puente de Don Juan (Cuenca).

PULP MILLS AT

Aranguren, Renteria (two); Oroz, Villava, Olarraín, Illarramendi, Segovia and Villagordo del Jucar.

FACTORIES FOR STATIONERY SUPPLIES AT:
 Arrigorriaga, Tolosa, Villava and Palazuelos.

**Manufacturers of and dealers
 in every description of**

PAPER

**EXPORTERS TO EVERY COUNTRY
 THROUGHOUT THE WORLD.**

Please address all correspondence to the
**ADMINISTRATION OF THE
 PAPELERA ESPAÑOLA, Madrid.**

Calle de la Florida No. 8.

Telephone 1408. Apartado No. 316. P.O. Box 316

THE WEST END ENGINE WORKS Co.

Paper-Makers' Engineers



MOTOR DRIVEN FRICTION WINDER WITH SILENT CHAIN DRIVES.

Telephone No. :
1473 CENTRAL.

Telegrams :
"West End,
Edinburgh."

EDINBURGH

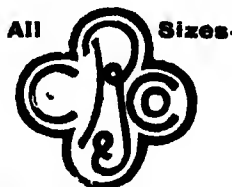
CROOKES, ROBERTS & CO.,

MAKERS OF GOEBEL CUTTERS

TOPS AND BOTTOMS.
Prices on application.

ARGUS
WORKS SHEFFIELD.

Telegrams:
"ARGUS, SHEFFIELD."



Manufacturers of

RAG ENGINE
ROLL BARS

and

BED PLATES

in Crookes' Special Metal Composition.
Best Refined Crucible Cast and Selected
Steels.

TRAM AXLES AND FORGINGS
A SPECIALITY.

CIRCULAR KNIVES.

RAG AND ROPE CHOPPER KNIVES.

Doctor Blades. Guillotine and
all other Machine Knives,
and every description of

Tools used by Paper-Makers.

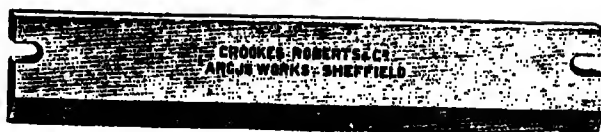
ARGUS Special High Grade Crucible
Steel for all Purposes.

ARGUS HIGH SPEED (all grades).

ELBOW PLATE



ROLL BAR



STRAIGHT PLATE



CIRCULAR
CUTTERS.



CIRCULAR
CUTTERS



CHARLES WALL

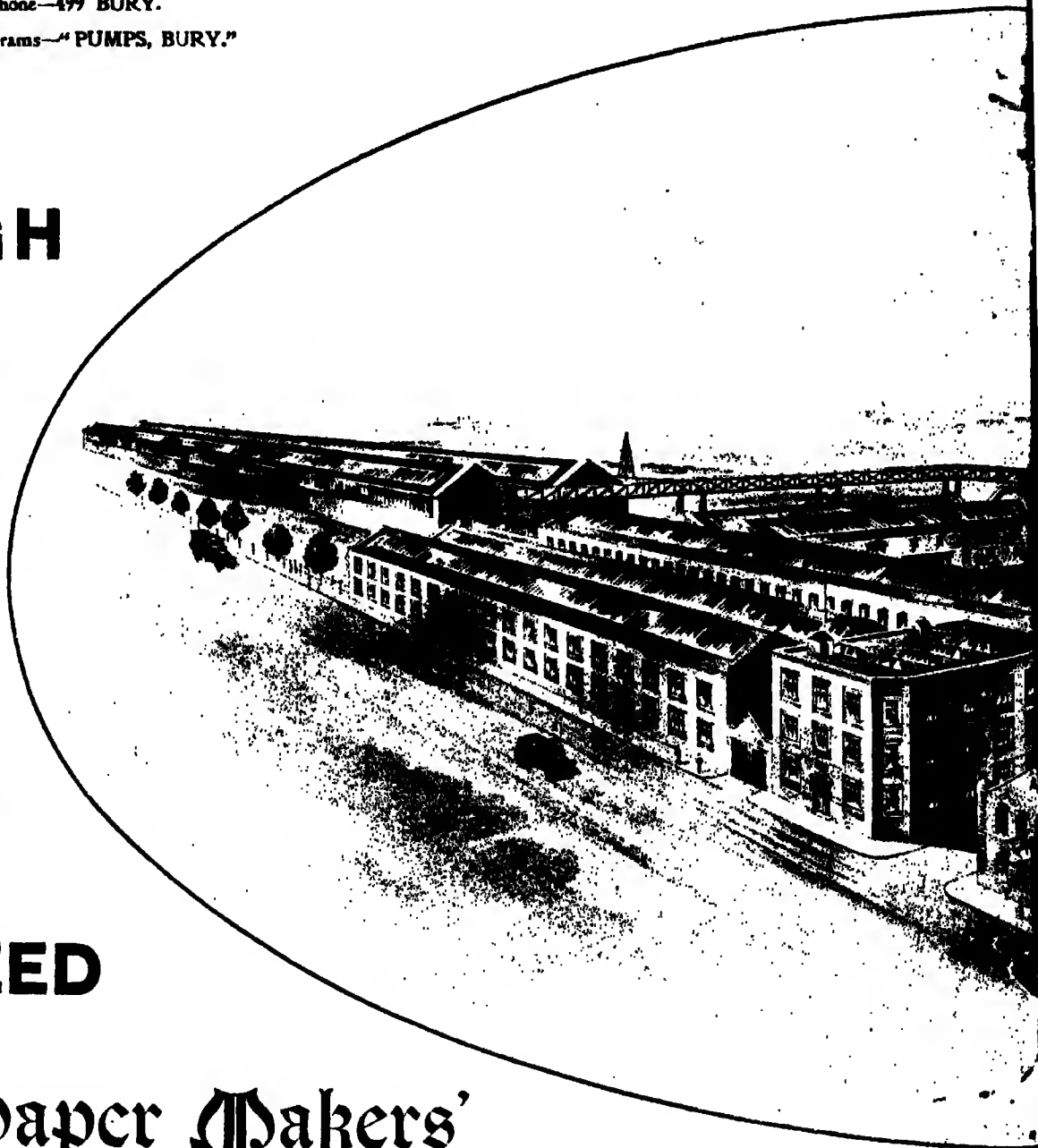
Telephone—499 BURY.

Telegrams—"PUMPS, BURY."

HIGH



SPEED



Paper Makers'
ATLAS WORKS,

BL

WALSLEY & Co. LTD.

Cables—"PUMPS, BURY, ENGLAND."

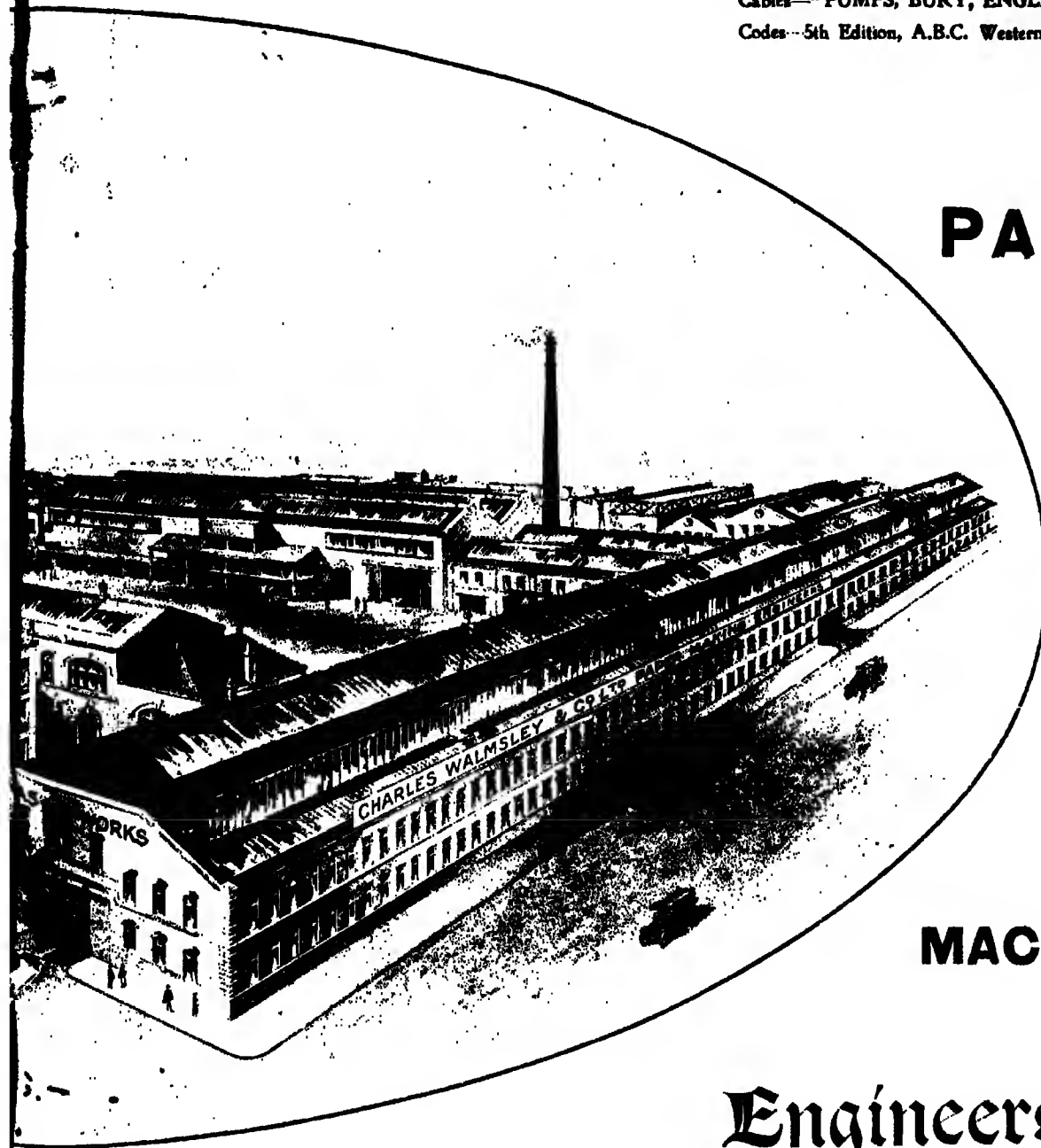
Codes—5th Edition, A.B.C. Western Union.

PAPER

MACHINES

Engineers,

LANCASHIRE.



BURY,

WHITLEY PARTNERS,

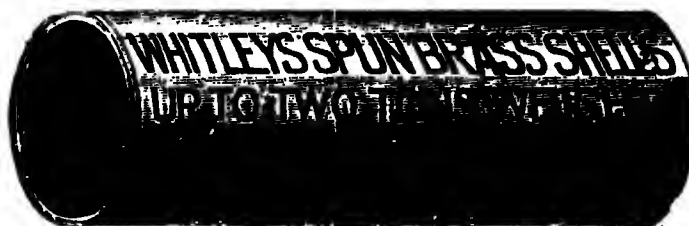
Engineers and Brass Founders,
RAILWAY WORKS, LEEDS.

Calender Bowls and Paper Machine Rollers in Brass.

Paper-Makers should specify for

**Whitley's
Spun Brass Shells,**

Which are Unequalled in Density—being Non Porous and Absolutely Free from Blow-Holes, are Economical in Price, and add practically nothing extra to the cost of Paper Machines.



"GIANT" RAG CUTTERS

Practically No Repairs.

LARGE
CAPACITY.

SINGLE,
TRIPLEX
and
TANDEM
CUTTERS.



GIANT TRIPLEX CUTTER.

NEARLY
UNBREAKABLE.

3 Revolving
Knives and
1 Stationary
Knife.

In various
sizes with
capacities from
1,200 lbs to
4,000 lbs
per hour.

R. J. MARX

(LATE J. MARX & CO.),

Paper-makers' Engineers.

**133-9, FINSBURY PAVEMENT,
LONDON, E.C. 2.**

Sole Agents for Europe.

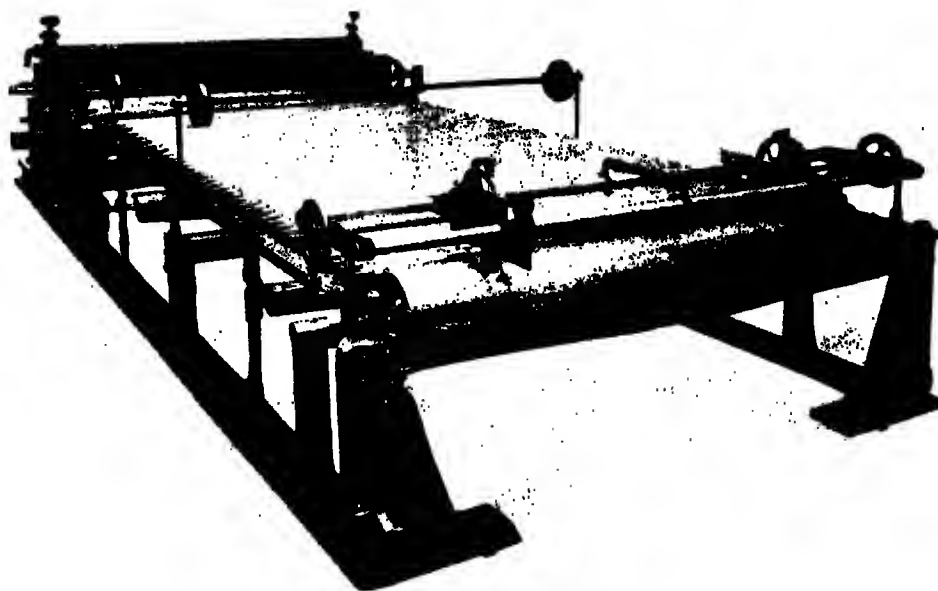


Engineering Works :
CORONATION WHARF,
TOWNMEAD ROAD,
FULHAM, LONDON, S.W.6.

Telephone : PUTNEY 2475
(2 LINES WITH PRIVATE EXCHANGE.)

Telegrams :
MASSOUN, WALGREEN,
LONDON.

PAPER MACHINES



1920 CONSTRUCTION

WE SPECIALISE IN PAPER & BOX BOARD MACHINES

JOHN M. WATSON & CO.

—CROWNPOINT WORKS—
37-39, DAVID ST, GLASGOW

SUPPLIERS OF

Paper-Making Materials

HOME AND EXPORT.

WASTE PAPERS—RAGS—NEW CUTTINGS
ROPES—JUTE—CANVAS—BAGGING.

*All our stocks graded to suit
Paper-makers' requirements.*

ENQUIRIES SOLICITED.

Telegrams & Cables: "Cellulose, Glasgow." Telephones: 661 & 3027 Bridgeton.
Codes: A B C (5th Edition), "Waste Merchants," "Western Union."

Wardill & Gilbert

formerly trading as

H. HUBER & CO.

12 & 13, Upper Thames Street
LONDON, E.C.4.

Telegrams:
"ASPERO, GENT, LONDON."

Telephone:
CENTRAL 2388.

Specialists in PAPER AND PULP.

Direct Correspondence Solicited
with Pulp and Paper Mills.

**Sole Agencies of British and
Foreign Mills undertaken.**

ROPE DRIVING

For EFFICIENCY and DURABILITY USE

KENYON'S



Illustrated
Lecture on

"The Transmission of Power by Ropes"

Post Free, on application to—

WM. KENYON & SONS, Ltd.

CHAPEL FIELD WORKS,
DUKINFIELD, ENG.

Telephone Nos.: 494 Ashton, 6318 London Wall.
Telegrams: "Kenyon, Dukinfield"; "Kenyonsons, London."

LONDON OFFICE: 95 to 97, FINSBURY PAVEMENT.

BRANCH WORKS: ARMENTIÈRES, FRANCE.

(1)

The Oldest Trade Protection Office in the United Kingdom.

ESTABLISHED 1776.

PERRY'S TRADE PROTECTION OFFICES

(W. R. PERRY, LTD.).

26 & 27 BUSH LANE, CANNON STREET, LONDON.
WITH AGENTS AND CORRESPONDENTS THROUGHOUT THE WORLD.

Inquiries made as to the position and standing of Traders and others
in United Kingdom and Abroad.

PERRY'S GAZETTE AND LISTS OF CREDITORS

Are published weekly, and are invaluable to every one in business.

Names obtained of suitable Agents and Reliable Business Firms.

DEBTS RECOVERED AND PAID OVER PROMPTLY.

PENMAN & CO. LTD.

BOILER MAKERS.

Lancashire & other Types.

PAPER MILL REQUIREMENTS A SPECIALITY.

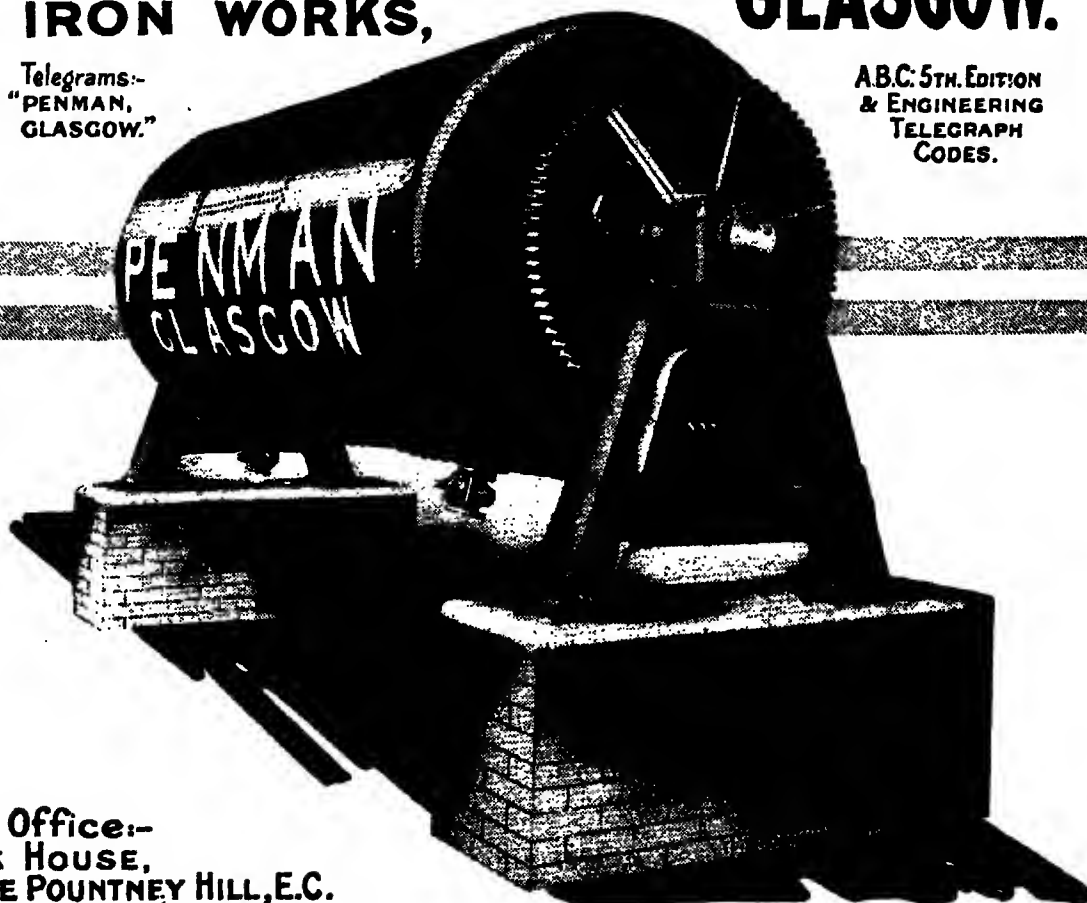
HIGH-PRESSURE ESPARTO & REVOLVING RAG BOILERS.

CALEDONIAN
IRON WORKS,

GLASGOW.

Telegrams:-
"PENMAN,
GLASGOW."

ABC: 5TH EDITION
& ENGINEERING
TELEGRAPH
CODES.



London Office:-
SUFFOLK HOUSE,
LAURENCE POUNTNEY HILL, E.C.

LORD'S BARNBROOK

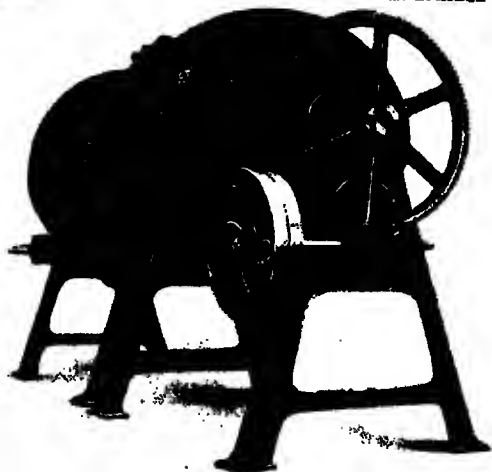
(Late J. K. & R. LORD),

Barnbrook Boiler Works, BURY,

Near MANCHESTER.

Telephone No. 226

Established 1842.



REVOLVING GLOBICAL BOILER for Rags and Gun Cotton.

*Specialities:*CYLINDRICAL and SPHERICAL REVOLVING BOILERS
and DIGESTERS for Paper and Wood Pulp.

HIGH PRESSURE STEAM BOILERS.

Telegram: "Giles, Leith."

Telephone: Nos. 213 and 214.

E. CHALMERS & CO., LTD.,
BONNINGTON, LEITH.

Linen Rags. Cotton Rags. Canvas.
Hemp Ropes. Manilla Ropes.
Jute and Flax Bagging.
Waste Papers. Strawboard Cuttings.
Paper Shavings (Cream, White, Coloured, &c.)
&c., &c. All thoroughly well classed.

ENQUIRIES INVITED.

SAMPLES ON APPLICATION.

N.B.—CASH OFFERS made for Disused Paper
or other Works for Dismantling purposes.Scrap Metals (Iron, Brass, Lead, Zinc, &c.), Waste Rubber, &c., &c.,
purchased for prompt cash.**John W. Leitch & Co.****Milnsbridge Chemical Works,****Nr. HUDDERSFIELD,**

MANUFACTURERS OF

**Coal Tar Dyes for
Paper-Makers.**

Telephone Nos.:

189 & 190 Milnsbridge.

Telegrams:

"Leitch, Milnsbridge."

Samuel O'Neill

and Sons, Ltd.

**LINDEN MILL.
CASTLETON,
LANCASHIRE.**

Makers of

**Strawboard Centres
for Paper Makers.**



COOL AIR IN SUMMER
WARM AIR IN WINTER
But Fresh Air Always

**The
HEATING & VENTILATING
OF FACTORIES**

Fresh air at the right temperature is conducive to good work and maximum output. If you realise this, you only need to know which system of ventilation will best suit the requirements of your factory. If you have not seriously considered ventilation from the point of view of greater production you will profit by studying the question. Scientific ventilation will provide your factory with fresh invigorating air that is washed and tempered to the needs of the building and its workers.

In either case send for Publication No. 1012 dealing with this important subject, or let us arrange for one of our engineers to discuss it with you.

DAVIDSON'S

ESTABLISHED 1846.

THORNTON & CO., LTD.

**India Rubber Manufacturers,
4, HANOVER STREET, EDINBURGH.**

Makers of all kinds of Rubber Goods required in a Paper Mill

The "Amazon" Driving Belt. Deckle Straps.
Strainer Diaphragms. Machine Aprons. Valves.
Delivery and Suction Hose.
Hat Shaped Rubbers for Rotary Strainers.

BALATA BELTING.

Telegraphic Address: "THORNTON, EDINBURGH." 6

COLES: A.B.C., 4th and 5th Editions.
Lieber's 5-letter. Marconi International.

Telegrams: "KENYON, BURY."

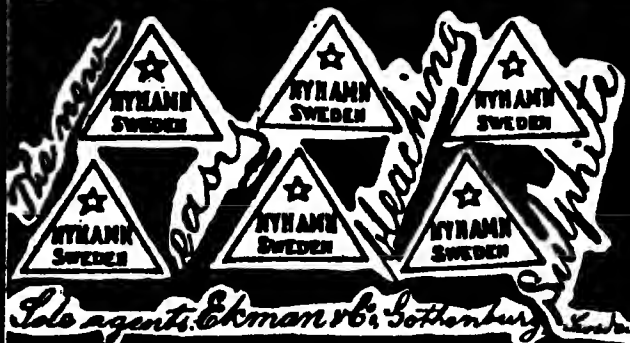
James Kenyon & Son

LIMITED.

**PAPER-MAKERS'
FELTS.**

**Derby St. Mills,
BURY.**

Nyhamns Cellulosa Aktiebolag, Lunds



Sole agents: Ekman & Co., Gothenburg, Sweden

KINNEAR

PATENT STEEL ROLLING

SHUTTERS

for
Car and Bus Depots,
Generating Stations
Boiler Houses,
Harbour Warehouses,
Core Ovens,
Garages, and
Entrances Generally.

On Admiralty, War Office, and other Lists.

ARTHUR L. GIBSON,
Radnor Works, TWICKENHAM.

GLASGOW:
121, West George Street.

MANCHESTER:
90, Deansgate.

Russo-British Chamber of Commerce PETROGRAD.

An Association of English and Russian
Business Men, mutually interested in
Anglo-Russian Trade.

The First Chamber of Commerce in Russia.

Working in conjunction with the
RUSSIAN SECTION OF THE LONDON
CHAMBER OF COMMERCE.

Membership about 1,200.

**AGENCIES and CORRESPONDENTS in all the large
Centres of Russia, Great Britain and her Colonies.**

Members receive: Free information on
questions of Commerce, Industry,
Agriculture and Finance relating to
the Russian and British Empires,
printed in English and Russian; Free
Copy of the Monthly Journal of the
Chamber; Free Insertion of Inquiries
in the Journal, and many other privi-
leges.

For further particulars apply to:-

**THE SECRETARY, RUSSO-BRITISH CHAMBER OF COMMERCE,
4, Gorochevskaya, PETROGRAD.**

**ACETATES
OF
LEAD.**

White and Brown.

PROCTER, JOHNSON & Coy.
17, Withy Grove, MANCHESTER.

DELIVERY FROM STOCK.

FRENCH CHALK.
Papermakers' Quality.

**OXIDE OF IRON,
BLUES, BLACKS,
& ALL COLOURS.**

We Had to Move.

Our old premises were crowded out, so we have built and equipped new and extensive premises, which—like the Packing—are the finest of their kind in the world. We pioneered the Metallic Packing business; we proved to engineers the economy secured by using our products, and we still remain where we have always been—right in the front.

When you think of **PACKINGS** the first name to occur to you will, without doubt, be

The United States Metallic Packing Co., Ltd.

SOHO WORKS, Allerton Road, BRADFORD.

Telegrams : "Metallic, Bradford."

Telephones : 4705, 4706.

W. S. BARRON & SON, LTD., Engineers, GLOUCESTER. ENGLAND.

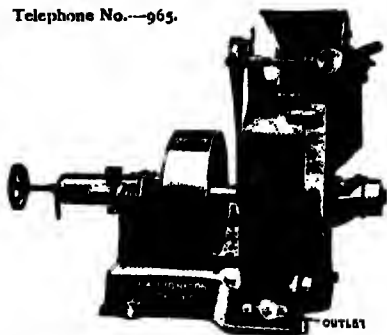
Telegraphic Address : "Barron, Gloucester."

Cable Code, A B C, 5th Edition; and Marconi International Code

Telephone No.—965.

SPECIALITIES :

**Crushing, Grinding, Dressing,
Sifting, Mixing, Drying, Damp-
ing, and Conveying Plants.**



PATENT "DREADNOUGHT" GRINDER.

All productions are made at our own Works of the very best material and workmanship, under our personal supervision.
Orders accepted direct against Cash in London or through Merchant Service.

BARRON'S PATENTS { "DREADNOUGHT" GRINDERS
IMPACT GRINDERS
DOUBLE PULVERIZERS
"DREADNOUGHT"
MILLSTONES.

Thousands in use all over the World.

Your enquiries are respectfully solicited.



PATENT IMPACT GRINDER.

Engines. GALLOWAYS Boilers.

LIMITED

MANCHESTER.

Write for particulars.

Telephone: 6312 Central.

Tandem Compound Drop-Valve Steam Engine,

with SPECIAL DEVICES
for supplying

**MANUFACTURING STEAM at
STEADY PRESSURE from the
RECEIVER of the ENGINE.**



GROSE & STOCKER, STOKE-ON-TRENT.Established
over 60 years.All qualities of **CHINA CLAY** for Paper Makers.

Special qualities for Coatings.

Also PEARL WHITE, MINERAL WHITE, and TERRA ALBA of the finest qualities.

Stocks kept at FLEETWOOD, GARSTON, RUNCORN.

Sub-Office: 9, Heywood Avenue, Market Place, Manchester.

Telephones: 613.

Samples and Prices on Application.

Telegrams: STOCSEA, STOKS-ON-TRENT.

Telegrams: "HIGGINBOTTOM, SALEM NEW MILLS.

MANUFACTURERS OF

National Telephone: No. 12 NEW MILLS

ROSIN SIZE FOR PAPER-MAKERS.

Also Rosin Size (any strengths) Oleines and Soluble Oils, Red Liquors, White Softening, Bleaching Pastes, etc., etc.

G. & E. HIGGINBOTTOM, LIMITED,**Salem Chemical Works, NEW MILLS, near STOCKPORT.****MANCHESTER CHINA CLAY CO., Ltd., 4 ST. ANN'S SQUARE, MANCHESTER.**Telegrams:
"Kaolin, Manchester."
Nat. Tel.: 3080.**JOHN WILLIAMSON, Manager, Royal Exchange, No. 23, Manchester.**

Representatives for Scotland: W. G. TAYLOR & CO., Ltd., 29, St. Andrew Square, Edinburgh.

Trade Mark
Registered.All Qualities
of**China Clay**Used by
Paper Makers

Mines: ST. AUSTELL, CORNWALL.

Stocks at Manchester, Runcorn, Preston, and Leith.

CHARLES BAKER & Co., Paper Makers' Agents,**77a, QUEEN VICTORIA STREET, LONDON, E.C.**

Telephones—City 4723—4724 (2 lines.)

SPECIALITIES:

Telegrams—"Glazed, Cent London."

WHITE and SUPER CALENDERED PRINTINGS, WRITINGS, BANKS, CARTRIDGES, GREASEPROOFS, IMITATION PARCHMENTS, KRAFTS, BROWNS, M.G. POSTERS, VEGETABLE PARCHMENTS, CAPS, &c.

SOLE AGENTS FOR
(Midland Counties & London)**HARTLEPOOL'S PULP & PAPER CO., LTD.**

Established 1810. Telegrams "Dycetuff, Manchester." Post Box—455 Manchester. Telephones—1313 & 1314 City.

MILLWARDS MERCHANDISE LTD.**14a, Blackfriars Street, MANCHESTER.****CHEMICALS, COLOURS & REQUISITES
FOR PAPER MAKERS AND STAINERS.****A New 1920 Edition is now on Sale.
Phillips' Paper Trade
Directory of the World.**THE MOST COMPLETE PUBLICATION EXTANT
CONNECTED WITH THE PAPER TRADES. . .

Price 21/- Post free.

Publishing Office: 47, CANNON STREET, LONDON, E.C.4.

THE Paper - Maker

AND
British Paper Trade Journal.

WITH WHICH IS INCORPORATED

THE WOOD PULP MAKER.

THE INDEPENDENT & PRACTICAL JOURNAL FOR THE PAPER & WOOD PULP TRADES.

Founded by S. CHAS. PHILLIPS M.S.C.J., in the Year 1891.

Telegrams ("SONICA, LONDON,"
and Cable: "SONICA, MANCHESTER," A B C (Code) 5th Ed.

ALL RIGHTS RESERVED.

CHIEF OFFICE:

47, CANNON STREET, LONDON E.C.4

Telephone: No. 5420 (Bank)
No. 14 City (Manchester).

Registered for the Canadian Magazine Post.

BRANCH OFFICES: 448 & 450, PRODUCE EXCHANGE BLDGS.
MANCHESTER.

VOL. LX., No. 2.

AUGUST 2, 1920.

MONTHLY P.D. BY POST 2/-
Subscription 21/- per Annum, Post Free.

CHINA CLAY

SEND ORDERS FOR
QUICK
SUPPLIES

**Wm. Varcoe & Sons
Ltd.**
ST. AUSTELL,
CORNWALL

**Shafting.
Belt Pulleys.
Rope Pulleys.
Gear Wheels.**

For hard continuous running specify Harpers'
Ring Oiling Pedestals lined with Sabbit or
Gun-metal.

HARPERS LTD., ABERDEEN.

ENGLISH CHINA CLAYS LTD.

ST. AUSTELL, CORNWALL.

**LARGEST CHINA CLAY
PRODUCERS in the WORLD.**

CHRISTIE'S PAPER MACHINE WIRES

ANY WIDTH
UP TO 210".
OF SPECIAL RUBY METAL.

London Office:
81/83 Bishopsgate,
E.C.

Noted for Long Life, Smooth Running,
Fine Finish, Flat Edges, Special Seams.

**EXTRA STRONG CABLE OR
TWISTED WIRES**
(TINNED AND UNTINNED).

**WOVE, SPIRAL AND LAID
DANDY ROLLS**
(PLAIN AND WATERMARKED)

**WASHER WIRE AND FINE
CLOTHS** TO 200
MESH.

Telegraphic Address:
"LADYWELL,
GLASGOW."

GEO. CHRISTIE, LTD.

LADYWELL
WIRE WORKS,

GOVAN, GLASGOW

R. L. LUNDGREN, LIMITED,

113, Queen Victoria St., LONDON, E.C. 4.

And at 2, St. Andrew Square, EDINBURGH.

**Specialists in Paper
and Enamelled Boards**



See

Our

SPECIAL

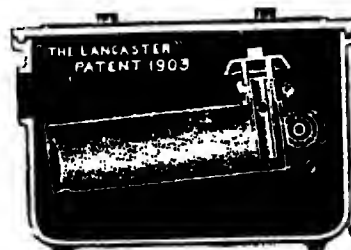
Advertisement on Page 245.

Telephone 6058 and 6059 City.

Telegraphic Address
"LUNDGREN, GENL, LONDON."

"THE LANCASTER"
(R.T.M.)

STEAM TRAPS.



The SIMPLEST and most RELIABLE Traps sold,
and undoubtedly the SAFEST on the Market.

THOUSANDS IN USE IN PAPER WORKS
ALL OVER THE WORLD.

FIRST ORDERS always "ON APPROVAL."

LANCASTER & TONGE, Ltd.,

Sole Makers of "The Lancaster" Pistons, Limit
Piston Rings, Steam Dryers, Metallic Packings, etc.

Pendleton, MANCHESTER.

Telegrams: "Pistons, Manchester." Telephone: 4621 City.

High-class Skin Glues,

Ultramarines & Colors

for

Paper-makers.

STANCOURT, SONS

& MUIR, Ltd.,

24, Walbrook, LONDON, E.C.

Telephone Nos. Central 13103
City 9571

Telegrams:
"Ultramarine, Cannon
London"

**STOCKS HELD.
PROMPT DELIVERIES.**

**Vandyke Brown Powders,
Soluble Vandyke Crystals,
Finest Green Earth,
Burnt Turkey Umbers,
Oxides, Venetian Reds,
Ochres, Carbon Black**

(British and American),

Prussian Blues (Paste & Powder),

Bronze Blues,

Ultramarine Blues,

Aniline Dyes for

Papermakers.

Telephone: CITY 1221 & 7771.
Telegrams: "VANDYKE, MANCHESTER."
Code A.B.C. 5th Edition.

SAVILLE, MARVEL & Co., Ltd.,

Great Ancoats, MANCHESTER,

Works **MOSSLEY.**

Importers and Shippers of Aniline Dyes,
Colours and Chemicals, etc.;

Mine Owners and Mineral Merchants.

British Paper Trade Journal.

THE WOOD PULP MAKER.

Vol. LX.—No. 2.

AUGUST 2, 1920.

ONE SHILLING AND SIXPENCE.

By Post. 2/-.

CONTENTS.

ADVERTISEMENTS.	PAGES.
B. A. T. & T. J.	215
Wachtold, J.	210
Backhouse & Coppock, Ltd.	152
Baker, Charles, & Co.	260
Barron, W. S. & Son, Ltd.	265
Becker & Co., Ltd.	104
Belgian State Railways	250
Bemis, Rd., & Co., Ltd.	192
Bentley & Jackson, Ltd.	268
Berner and Nielsen	247
Beitram, James, & Son, Ltd.	100
Boletín de la Industria y Comercio del Papel	262
Boving & Co., Ltd.	207
Bowater, W. V. & Sons, Ltd.	208
Brisson & Co., Ltd., Chas.	240
British Dyestuffs Corporation	172
Brotherhood, Peter, Ltd.	251
Brownell, Lindsey & Co.	228
Bray & Ford	22
Brunner, Mond & Co., Ltd.	267
Cardwell, J. L., & Co., Ltd.	210
Carlson & Sons, David	231
Carmichael, Peter, & Co.	230
Chadwick, Lunt & Co.	190
Chalmers, L., & Co., Ltd.	262
Chemical Engineering Co.	27
<i>China Clay Trade Review</i>	254
Christie, Geo., Ltd.	169
Church, Geo., & Co., Ltd.	162
Clarke, Chapman & Co., Ltd.	251
Clayton Asphalte Co., Ltd.	23
Clegg & Son, Lewis	211
Cole, Marchant & Morley, Ltd.	233
Cookson Bros.	184
Crookes, Roberts & Co.	274
Crowthor & Osborn, Ltd.	24
Culter Mills Paper Co., Ltd.	261
Davidson & Co., Ltd.	263
Davies, G. B., & Co.	272
Dawson, John, & Son	243
Diamond State Fibre Co.	228
Dixon & Co., Ltd., I. S.	215
Dominion Engineering Wks., Ltd.	218
Drum Engineering Co.	272
Drysdale & Co., Ltd.	202
Drake & Gochum	216
Duxbury & Sons, Ltd., Yates	150
Eburite Paper Co., Ltd.	104
Edwards & Sons, Ltd., W. D.	220
Eggins, Kunt	236
Electro Bleach & Ry-Products, Ltd.	211
Electromotors, Ltd.	251
English China Clays, Ltd.	101
Escher Wyss & Co., S.A.	214
Evans, Norman	228
Farmer, Sir James, & Sons, Ltd.	284
Featherstone, Henry	205
Felber, Jucker & Co., Ltd.	220
Feinstrom, Erik	211
Ferguson, Hardy S.	202
Forester Paper Co. (1917), Ltd., The	201
Fox, Stockell & Co.	224
Forth & Clyde Coal Co., Ltd.	186
French Paper Stock Co.	220
Fullerton, Hodgart & Barclay, Ltd.	205
Galloways, Ltd.	294
Gibson, Arthur L.	286
Goovevan China Clay & Stone Co.	296

ADVERTISEMENTS.	PAGE
Paper, Chas., & Co., Ltd.	210
Paper Manufacturers Co., Inc. . . .	214
Parsons & Co., Ltd., C. A.	241
Parsons & Whittetmore, Inc. . . .	272
Parsons Trading Company	210
Pennell & Co., Ltd.	261
Perry, W. R., Ltd.	260
Phillips & Co.'s Standard Publications	254
Phillips' Paper Trade Directory of the World	250, 260
Pochem, H. D., & Co., Ltd.	240
Pollitt & Wignell, Ltd.	224
Porritt & Simpson, Limited	243
Price & Pierce, Ltd.	243
Proctor, Jas., Ltd.	230
Proctor, Johnson & Co.	293
Ralston, W. & Co., Ltd.	254
Ranwenes, Sims & Jefferies, Ltd. . .	223
Riddaway, J., & Co., Ltd.	iv Cover
Riedlin & Co.	262
Rex, Weddall & Co.	212
Rhodes Sales Co., Ltd.	227
Robey & Co., Ltd.	273
Royles, Limited	261
Rozolene Co., The	229
Rushton, Edward, Son & Kenyon . .	204
Russo-British Chamber of Commerce	204
Sabel, Paul, & Co.	226
Salomon & Co., Ltd.	242
Sankuz Chemical Co., Ltd.	212
Sanville, Marvel & Co., Ltd.	ii Cover
Small & Co., L. S.	229
Stamont, Son, & Mutt	ii Cover
Stockton-on-Tees Chemical Works, Ltd.	215
Stouler & Co., Ltd., F. & G. N. . . .	265
Stott & Co., W. H.	235
Straker Squire, Ltd.	248
Sub-life Bros.	210
Thiry & Co.	203
Thornton & Co., Ltd.	280
Torp Drugs A/S	192
Treman & Son, A. W. K.	210
United Alkali Co., Ltd.	iii Cover
United States Metallic Packing Co., Ltd.	295
United Wire Works, Ltd.	230
Varcoe, William, & Sons, Ltd.	ii Cover
Vaughan Crane Co., Ltd.	250
Vickery's, Ltd.	210
Walmaley, Charles, & Co., Ltd. . . .	276, 277
Wardill & Gilbert	218
Watford Engineering Works, Ltd. . .	271
Watson, John M., & Co.	218
Wayagamark Pulp and Paper Co., Ltd.	230, 237
West Carlsberg China Clay Co., Ltd. .	277
West End Engine Works Co.	278
Westhouse More Chain Co., Ltd. . . .	258
Westwell, Ltd.	269
Whitehead, R. R., & Brown, Ltd. . . .	264
Whitely Partners	274
Wilstaveris Aktiefabrig	270
Wild (John) & Sons, Ltd.	270
Williams, Frederick	274
Wondlands, Color & Chemical Co. . .	272

COMPLIMENTARY LUNCHEON TO MR. AND MRS. E. H. RAYNHAM.

A SILVER WEDDING CELEBRATION.



TO mark the occasion of the silver wedding of Mr. and Mrs. E. H. Raynham, a complimentary luncheon was held at the Piccadilly Hotel, London, W., on the 1st ult. The chair was occupied by the Right Hon. Lord Beaverbrook, who was supported by Sir Frederick Bowater, Sir Andrew Caird, Sir William Madge, Sir Frank Newnes, Sir Howard Spicer, Mr. R. D. Blumenfeld, Mr. Frank Lloyd, Mr. Ernest Parke, and Mr. Archibald Ryder, together with Mr., Mrs. and the Misses Raynham. Among other guests present were the following: Mr. H. Reeve Angel, Mr. A. E. Abraham, Mr. G. Beech, Mr. T. C. Bailie, Mr. F. E. Bluff, Mr. J. H. Bathgate, Mr. H. Becker, Mr. W. Byshie, Mr. G. Buchanan, Mr. F. Becker, Mr. G. C. Baker, Mr. Shirley Cropper, Mr. Stanley Cousins, Mr. W. Crafter, Mr. F. J. Cook, Mr. F. Cowley, Mr. F. Carter, Mr. Herbert Clarke, Mr. B. F. Crossfield, Mr. Chas. Corke, Mr. Wm. Corke, Mr. T. Dixon, Mr. A. Dean, Mr. Percy Denson, Mr. A. J. Evans, Mr. H. Featherstone, Capt. Fifoot, Mr. E. Fifoot, Mr. L. G. Gooding, Mr. E. George, Mr. N. B. Graham, Mr. W. Greirson, Mr. J. L. Graves, Col. Garwood, Mr. A. Harris, Capt. P. W. Hartman, Mr. E. H. Heron, Mr. A. Hunter, Mr. G. H. Hoffman, Mr. C. Irving, Mr. A. P. Jackson, Mr. W. Kellher, Mr. R. Love, Mr. E. Lendrum, Mr. A. Laban, Col. W. Lush, Mr. H. Ling, Mr. H. Lloyd, Mr. R. B. Miller, Mr. G. W. Mascord, Mr. W. Powers, Mr. W. Pöhner, Mr. W. R. Pointing, Mr. J. H. Parham, Mr. W. H. Ross, Mr. A. Richardson, Mr. G. Smart, Mr. A. Dykes Spicer, Mr. J. Smith, Mr. J. F. Sutton, Mr. J. Stephenson, Mr. A. F. Sutip, Mr. W. Walker, Mr. L. Watson, Mr. W. White, Mr. W. Will and Mr. T. Young.

The committee responsible for the excellent arrangements made comprised Sir Howard Spicer, Mr. J. S. Elias, Mr. W. Dallas Ross, Mr. A. Ryder, Mr. E. S. Lendrum, Mr. Ernest Parke, Mr. Stanley Cousins and Mr. P. Cumbers, while the secretarial duties were in the capable hands of Mr. A. P. Jackson. A sumptuous luncheon was provided, the menu being as follows:

Hors d'Œuvres Varies.
 Saumon grillé à la Ravigote.
 Concombres.
 Poulet en Cocotte Paysanne.
 Viande Froide Assortie.
 Salade Niçoise.
 Fraises Melba.
 Friandises.
 Vins.
 Martini Cocktails.
 Chateau Vignau de Rayne, 1914.
 Beanne, 1915.
 Louis Roederer, 1911.
 Cigars.

After the toast of "The King" had been honoured, the Chairman read a letter from Lord Riddell, apologising

for his inability to attend, while telegrams to the same effect were received from Sir Edward Hulton, Mr. Jeremiah and Mr. Fred Cumbers. Commenting on the letter from Lord Riddell, the Chairman stated that he wrote that Mr. Raynham was an old friend of his, and a great deal of business had been transacted between them. "The writer," said Lord Beaverbrook, "has put into brackets following the last sentence: 'I hope to our mutual satisfaction.'" (Loud laughter.) The letter also referred to the popularity and business traditions of Mr. Raynham and wished him and his family long life and yet greater success. In giving the toast of "Mr. and Mrs. Raynham," the Chairman characterised his duty as a very pleasant one. Mr. Raynham was very well known and most popular in the newspaper industry and was held in high esteem by everybody. It would be a difficult thing for him to say how he behaved at home (loud laughter), but judging from the happy appearance of Mrs. Raynham he was behaving himself quite well. (Renewed laughter.) He noticed that there were present a large number of Mr. Raynham's business competitors. Their presence was a compliment to his (Mr. Raynham) business methods, and such a compliment was one that any man should feel proud of. (Applause.) Mr. Raynham had been employed on the firm 34 years and it was to his credit that he commenced at the bottom of the ladder, as an office boy, and to-day was on the board of directors. At the age of nineteen he commenced his duties as salesman, and had been selling ever since. He had proved himself an excellent business man, but there was, however, one quality which he did not have to be a successful business man, and that was he was not a Scotchman. (Laughter.) Referring to the present paper situation, Lord Beaverbrook said that they read a great deal in the Press about new plans and various schemes such as making pulp from bamboo, but he would say that raw material was abundant and inexhaustible. Canada was a country he was well acquainted with and there was a consumption of 4,000,000 cords per annum, while he estimated that there were at present 1,000,000,000 cords in that country. That would be sufficient for 250 years at the present rate of consumption. With the schemes of afforestation the timber forests would renew in forty years, therefore there was an everlasting supply in that country for the time to come, and they would even multiply to six times. "The present shortage will have to be faced," said he, and this was due to high prices, but there was no doubt in his mind that the time would come when the seller would be going to the buyer once more.

Lord Beaverbrook then on behalf of the subscribers proceeded to present Mr. and Mrs. Raynham with a handsome china cabinet, which was a reproduction of a fine Enfield Chippendale model of 1760 and bore a suitable inscription. He presented Mrs. Raynham with a beautiful platinum bracelet, studded with diamonds, and also a diamond brooch to each of her daughters, Miss Gwen Raynham and Miss Hilda Raynham (who were present at the luncheon), and a wristlet watch to Master Raynham. "I am performing a most pleasurable task," said his Lordship, and addressing Mrs. Raynham said, "They are our gifts, but your choice, and I could not conceive of a more tasteful choice." The gifts, he said, were a mark of esteem, regard and affection of all who gathered there that day,

and in offering his hearty congratulations on their silver celebration, he hoped that they would be spared to celebrate their golden wedding. (Applause.)

Mr. Frank Lloyd, who was accorded a very cordial reception, thanked the chairman for the remarks he had made about him. He said it afforded him very much pleasure to be present at that celebration, and he wished to testify to all that had been said about Mr. Raynham. He (Mr. Raynham) was held in great respect by all the members of his staff and he wished the happy family long life and prosperity. (Applause.)

The toast having been duly observed, Mr. Raynham arose, amidst applause, and said that he would like to thank Lord Beaverbrook for the flattering statements he had made concerning him, and he assured them all that he would never forget that day. On behalf of Mrs. Raynham and himself he also wished to thank them most heartily for the beautiful cabinet and bracelet that they had been presented with. That day commemorated his 25 years of married life, and he had a wife that he felt proud of and his children also had a mother they could feel proud of. (Applause.) He had served 34 years with the firm under Mr. Frank Lloyd, and he could look back and say that he had never had an unkind word from that gentleman. (Applause.) Recalling the days when, at the age of 19, he commenced as a salesman, he could well remember having an order for a 1,000 envelopes, etc., and he could hardly forget when he had his first order of 50 reels of newspaper from the *Morning Leader*. He watched the order night and day until it was delivered. (Laughter.)

The honour paid to himself that day, he said, he attributed to his connection with the firm of Edward Lloyd, Ltd., and his respected chief, Mr. Frank Lloyd. The presence of many of his competitors who were also his friends, such as Sir Howard Spicer, Mr. Becker, Sir Fredk. Bowater, Mr. Stanley Consins, Mr. W. C. Poyers and Mr. Reeve Angel, was a source of great gratification to him. All he could do was to thank them all on behalf of his wife and his girls—not forgetting his dear little boy at home for the very great compliment paid to them. That red letter-day would never be effaced from their memory. (Applause.)

In proposing the toast of "The Chairman," Sir Henry Dalziel caused much amusement when he described him as a "Rolls Royce Engine with a Ford Frame." He was always full of energy and had a most active mind. He remembered when at the House of Commons first seeing Lord Beaverbrook who was then an unbearded young man. After a debate one day Lord Beaverbrook congratulated him on a speech he had given and he Sir Henry said "I thank you." He passed the remark to a friend that

that young man had a keen discernment and sound judgment. (Loud laughter.) "I think," said Sir Henry, "that I proved a prophet on that occasion." (Renewed laughter.) Continuing, he said that Lord Beaverbrook had great power in the Government and announced policies and declared ministers. He was causing this sweeping economy in the various Government departments. (Laughter.) However, they were both staunch Presbyterians, but were not exactly "Babes in the Wood" though children of romance. (Loud laughter.) He (Lord Beaverbrook) was actively engaged at present in pursuit of war wealth, and so was he (laughter), but he had not succeeded up to the present time. They were also now both supplying cheap

literature, whether it was favourable commercially or not.

Lord Beaverbrook, in reply, said Sir Henry Dalziel was a little bit confused about the economy campaign, as that belonged to another address in Fleet Street. (Laughter.) His Lordship recalled the indifferent state of Mr. Raynham's health and of his own a little while ago, and of the anxiety which each had felt for the other. That day they could congratulate one another on complete recovery. (Applause.) He would like to mention that Sir Henry had not yet named his wedding day. Sir Henry Dalziel (jocundly): "Can't afford it." (Loud laughter.)

Lord Beaverbrook, continuing, said that when he did, it would give him very great pleasure to propose his health, and in doing so he would try to imitate him and use the same influence and weight (loud laughter).

The proceedings were then brought to a close.



Photo;

MR. E. H. RAYNHAM.

[Elliot & Fry.

PAPER PULP FOR FRANCE.

The *Times* correspondent writing from Algiers states

that the possibility of supplying the French paper industry with pulp made from Algerian esparto grass is favourably reported on by experts. A factory is to be erected near Algiers and equipped with the most modern machinery for transforming alfa (esparto grass) into pulp suitable for paper making. The factory is to be capable of an annual production of about 15,000 tons of alfa pulp. The operating company anticipate being able to obtain over 100,000 tons of alfa from a concession that has been granted to them of a tract of land of an area of over 700,000 acres. The question of the production of paper pulp from "diss" (a wild plant that grows in profusion in some parts of the interior of Algeria) is being investigated. In order to produce pulp from this plant an abundant supply of running water is necessary, and the prospects of the proposed industry are consequently limited.

SULFITAKTIEBOLAGET GÖTA

GÖTA, SWEDEN.

Manufacturers of

G. T. WOOD PULP

EXTRA STRONG AND CLEAN.

*Dry, Unbleached Sulphite
Cellulose Pulp.*

*Wet, Unbleached Sulphite
Cellulose Pulp.*

Annual Output : 25,000 tons, dry weight.

Agents for Great Britain and Ireland :—

O. REICH & Co.,

STUART HOUSE, 1, TUDOR STREET, E C.4.

THE Paper - Maker

AND
British Paper Trade Journal,

WITH WHICH IS INCORPORATED THE
WOOD PULP MAKER,

**THE INDEPENDENT AND PRACTICAL JOURNAL FOR
THE PAPER TRADE.**

Founded by S. CHAS. PHILLIPS, M.S.C.I., &c.

Subscription, 21/- per Annum. Post Free.

Published on the 1st of Each Month.

EDITORIAL, ADVERTISEMENT, AND PUBLISHING OFFICES,

47, CANNON STREET, LONDON, E.C.

Branch Office: 418 and 430, Produce Exchange, Manchester.

Telegraphic Address:

"SONICA, LONDON."

"SONICA, MANCHESTER."

Telephone: No. 5430 (Bank).

A.B.C. Code 5th Ed. No. 14 City Manchester

ADVERTISEMENT TARIFF.

For Consecutive Insertions for not less than one year.

For ordinary issues only.

ONE PAGE	.. .. .	110 0 0	PER INSERTION
HALF-PAGE	.. .. .	55 0 0	"
THIRD-PAGE	.. .. .	33 5 0	"
QUARTER-PAGE	.. .. .	22 15 0	"
FIFTH-PAGE	.. .. .	13 5 0	"
SIXTH-PAGE	.. .. .	12 17 6	"
EIGHTH-PAGE	.. .. .	12 10 0	"

Twenty per cent. extra will be charged for less than one year's consecutive insertions.

Special Positions from £15 15 0 per insertion.

Double Rate for Annual and International Numbers.

SPECIAL PAGES IN COLOURS EXTRA.

Parliamentary Notices, Prospectuses, etc., 2/6 per line, calculated single column.

Small Single column advertisements, such as Wants, &c., 2s. per line.

Alteration in current Advertisements must reach this Office not later than the 15th of each Month prior to the publishing date, as owing to the increasing circulation of this Journal we are compelled to commence printing early.

VOL. LX.

AUGUST 2, 1920.

No. 2.

FINANCE.

WE are not quite sure that hard-headed and hard-working business men fully realise the enormous importance of the unsettled condition of the financial world at the moment. The Stock Exchange usually affords a pretty close indication of the feeling of the money world, and although at the moment the Stock Exchange appears to be more cheerful than it has been for some months past, it cannot be said that the outlook is at all optimistic, and although there are continued rumours that an era of cheaper money is about to begin, it is difficult to ascertain what justification there is for this impression at the moment. How far the Excess Profits muddle is responsible for the spirit of uncertainty it is difficult to say, and the Baldwin's complication affords food for reflection. But as the Baldwin-Sperling negotiations are in a delicate condition we must not say more. The action of the committee of the Stock Exchange in regard to this matter is significant.

Another matter of more than passing interest is the issue, under the auspices of James Capel and Co., of

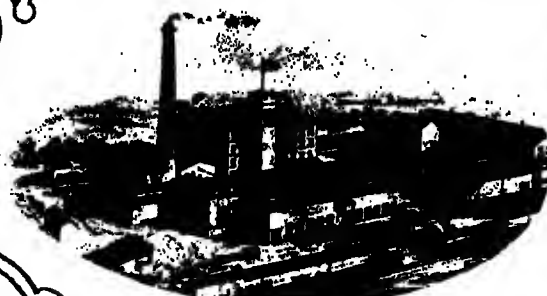
£800,000 7½ per cent. first mortgage 15-year guaranteed debenture stock of the Imperial Paper Mills, Ltd. The issue price was 98, and the debentures are to be repayable at 103 per cent. by equal annual drawings. The new money is required for the purchase of the whole of the shares of the Gulf Pulp and Paper Company of Quebec. The significance of this issue apart from its general trade interest is the fact that not only is 7½ per cent. interest being paid on a first-class security but the terms render the return even more liberal, and it is fair to assume that the exceptionally well-informed people associated with the Imperial Paper Mills, people who are really in a position to know the trend of affairs, and people who possess great wealth, should offer these generous terms on an issue of £800,000. It is also worth noting that a first-class firm such as Harrods are subdividing the £5 preference shares into £1 and increasing the dividend on that from 5 per cent. to 7½ per cent. Before the war these rates of interest would have been considered absurdly high, especially when guaranteed by firms of the highest repute, but these things serve again to remind us and all concerned in financial operations, large or small, that we must realise that we have entered on a new standard of values and that the concerns who in future years can only show a profit at the pre-war scale will have to seriously consider their position. It is also extremely regrettable that some of the large banks are making matters at the moment more difficult by tightening the market at a time when certainly everyone in the paper trade needs four or five times the capital for ordinary payments.

These facts are sometimes overlooked when comments are being made as to the inflated prices being paid for British paper mills fully equipped. More than one critic appears to lose sight of the main fact that the market value of an undertaking to-day is not what it was worth in 1914, but what it would cost to put down a mill now or five or ten years hence, and those who have any knowledge of the estimates of building and machinery will not be in doubt as to what astounding figures the present values amount to. The same may be said regarding criticisms of dividends paid and profits earned by paper-making concerns in this and other countries. Pre-war standards must be forgotten, as they can have no relation to present and future requirements. In other words, they must have some appropriate ratio to to-day's costs of equipment, maintenance and production, together with the fact that the purchasing power of money comes home as directly to the investor as it does to the worker. Apparently this self-evident fact is very frequently overlooked. Just one other aspect of the Imperial Paper Mills' new undertaking reminds us that the tendency of the time is for great undertakings to be self-contained. On the other hand at least two important concerns in this country—Messrs. Edward Lloyd, Ltd., and Messrs. Thomas Owen and Co., Ltd.—have dispensed with wood pulp holdings in Scandinavia in recent years, and there is a good deal to be said for and against a proprietary supply as against purchasing in the open market. It is an open secret that there are other big Canadian projects in course of development, and Sweden, Norway, Finland and Germany are also keenly alive to the possibilities of the growing demands for pulp and for paper.

Yates Duxbury & Sons Ltd.



MILL NUMBER
153.



MILL NUMBER
208.



Heap Bridge Paper Mills BURY, LANCS.

Makers of

**Fine E.S. Printings and Writings
Antique Laid and Wove
E.S. Cartridges & Parchment Wove
Superfine Tinted Writings**

Packing for Export a Speciality

Sole London and Export Agents:

CHARLES E. CORKE & CO.
45, LUDGATE HILL - - E.C.4.

Telephones:
CENTRAL 802 & 803.

Telegrams:
"INTERWOVEN, CENT, LONDON."

MY NOTE BOOK.

"A chief's among ye takin' notes."

The issue of the Imperial Paper Mills prospectus is the big event of the month, and the money poured in - for even in these times a safe eight per cent. industrial investment is a good thing.

It seems but yesterday Mr. Stanley Cousins rang me up and said: "If you will come over to my office I will tell you something very interesting."

I went, and Mr. Cousins told me of the Imperial Paper Mill's scheme and showed me a rough plan.

The mill was built, and has proved, and is to-day an invaluable asset of the Amalgamated Press, which company, by the way, has during the past fifteen years paid dividends at the rate of 10 per cent. on the ordinary shares.

The figures of the earnings of the Imperial Paper Mills, Ltd., are remarkably good, and the acquisition by the company of the whole of the capital stock of the Gulf Pulp and Paper, Clarke City, P.Q., is a significant sign of the times.

The model mill at Gravesend is to be enlarged, and presumably the 635,000 acres of timber limits now acquired will be fully utilised for the Imperial Mills. This self-contained arrangement will, at no distant time, have an effect on the pulp market generally.

Of course the Harmsworths have for years owned and controlled the big Newfoundland undertaking, and the purchase of the Gulf Pulp Mills will further strengthen the position of the Amalgamated Press, which to-day, owing largely to their holding in the Imperial Paper Mills, is unique. No other publishing firm can absolutely control the paper supply direct from the forest on to the printing machines.

Mr. Frank Lloyd formerly had this advantage, but the Sittingbourne Mills and the Salisbury Square publications are now separately controlled.

Incidentally, two of Mr. Lloyd's "right-hand men" associated with Sittingbourne are now in Canada looking round.

Mr. Frank Lloyd made one of his very rare semi-public appearances at the luncheon given at the Piccadilly Hotel in celebration of Mr. and Mrs. Raynham's silver wedding.

The speeches were very appropriate and bright, and the gathering was a tribute to Mr. Raynham's popularity with customers and competitors alike.

Mr. Lloyd was lured into saying a few words, and we all know that he can make a very excellent speech if disposed to do so. Mr. Frank Lloyd has also a very keen sense of humour, and whilst paying Mr. and Mrs. Raynham a sincere compliment, he rather naively added, "I must not detain you, as after all this is not my silver wedding."

In olden times the Cecil Hotel was the rendezvous of most functions associated with the Paper Trade, great and small, and it will be remembered that the Cecil did these things very well.

I remember getting up a luncheon to the Hon. Arthur Hastings, and the whole function was arranged in a few

hours; as a matter of fact, the final details were "fixed" over the telephone, but everything passed off smoothly. That was in the old days of the Cecil. Then the Connaught Rooms entered a new lease of life under the able control of Mr. George Harvey, and this year the Piccadilly Hotel, Princes' Restaurant, and the Hyde Park Hotel has provided entertainment for the Allied Trade and have done admirably.

A well-known pulp man took us to task last month for publishing a report from one of our correspondents that parcels of mechanical pulp were being eagerly snapped up. This gentleman did not volunteer the information that he had a substantial consignment "in sight," and that in Lancashire he had "hawked" a mechanical pulp without success, the only *bona-fide* offers he could obtain being at a material reduction.

One of the most difficult and delicate duties of a trade journalist, particularly on a monthly publication, is to report with approximate closeness market conditions, and, having this in mind, not long ago I wrote a number of personal letters to gentlemen in the trade, both sellers and buyers, and asked them if they would be good enough to supply me with approximate prices based on business done during a given period. The replies I received were very instructive, and would make very good reading, but, of course, they were confidential.

The most important point in the correspondence was the variation in the prices given, and the comments on the methods of certain firms, who apparently were not interpreting contracts to the satisfaction of some of our correspondents.

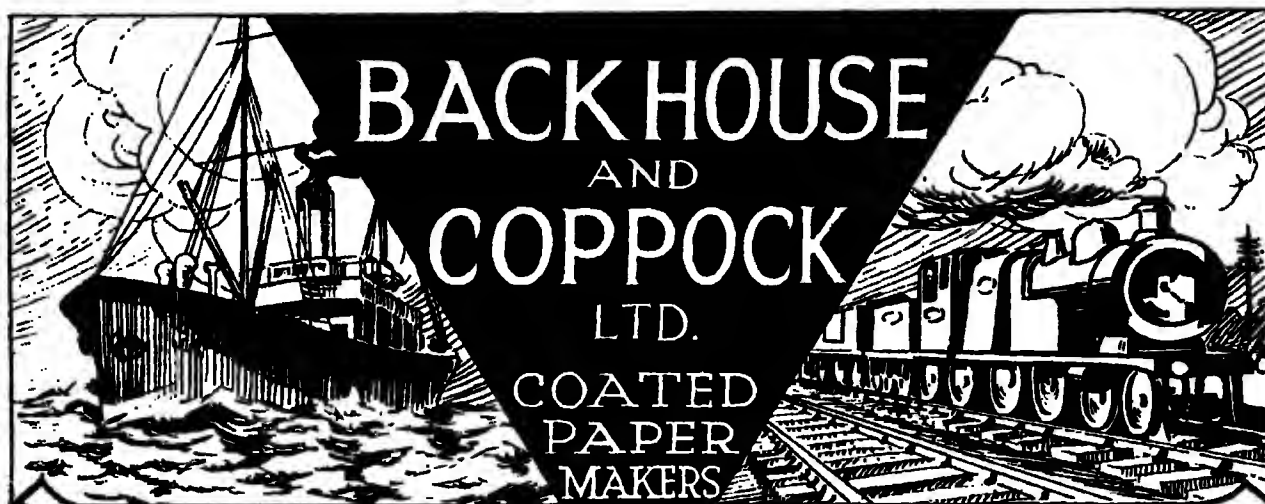
It may be that, in the near future, we may hear a good deal regarding *force majeure*, but so far as I can learn, the majority of sellers are delivering as soon as possible according to the terms of their contracts, although it is no secret that some big commitments have had to be levelled up.

It is also common knowledge that the gentlemen who are selling pulp in this country expressed the opinion freely that buyers who are holding back in the hope of an easier market are making a mistake and will have to pay the penalty.

Amongst the refreshing communications received is one from a Manchester "buyer" who, like many other genial subscribers, is quite satisfied in his own mind that the people who consider themselves trade journalists write what he terms "misleading nonsense."

Our friend, whose bark is worse than his bite, no doubt writes feelingly, and says that he cannot understand any sane person stating that kraft paper is being delivered in this country and sold at prices varying from £50 to £80 per ton. I think our friend must be on very good terms with the ladies, because, as is said to be the case with most ladies' letters, the most interesting part is the post-script, where he adds rather testily: "These prices are nonsense."

To put the matter plainly, our friend is evidently not in the swim, and probably his knowledge is parochial. Anyone in touch with Manchester should know that the position in the kraft world just now is very mixed, and from first-hand information I can assure him and others that the very best kraft obtainable, Swedish and Canadian, is being delivered in this country to-day at prices from £50 per ton upwards, and I am prepared to prove this statement.



Manufacturers of

Chromo Papers and Art Boards for Lithographers—White & Coloured Bright Enamels for Toilet and Fancy Labels—Coloured Surface Coated Papers for Cigarette, Tobacco and Soap Wrappers and Labels—Gummed Papers—Leatherettes—Calf Papers—White and Coloured Enamels for Box Makers—Baryta Coated Papers for Photographic Sensitizers—White and Coloured Enamelled Folding Box Boards.

*Buyers are invited to write to
Head Offices, Salerooms & Warehouses*

**16 FARRINGTON STREET
LONDON · E.C.4
MILLS · MACCLESFIELD,
ENGLAND**



One of the biggest buyers in the North recently showed me certain documents and copies of contracts, and whilst to-day quotations may reach from £65 to £80, there is a considerable quantity of kraft coming in at between £50 and £60, and there is a good deal contracted for at a great deal less than £70 or £80.

As our friend is apparently in need of enlightenment, I may comfort him by telling him that there are undoubtedly very big stocks, and that if he still is in doubt on the subject I shall be pleased to tell him where they are.

I suppose, in order to keep one out of mischief, contributors to the postbag have been very busy during the month, and the suggestion that paper is not likely to become dearer seems to have made certain people cross.

Of course, this cannot be helped, and the person who happens to be right will stiffen his banking account. But the information I happen to have appears to be that probably the maximum has been reached.

It is not impossible that there may be a break in pulp, whatever we may be told to the contrary.

No one with any knowledge of the subject would attempt to argue that the cost of pulp wood at the moment, as in the future, would not be considerably more than in pre-war days. Also that wages and coal are very serious factors. Still the feeling amongst many influential British paper-makers is, I happen to know, that the prices of pulp might be, in many cases, modified without calling upon the producers to make an unreasonable sacrifice.

I do not know whether the editor of a trade journal is supposed to possess the gift for peeping into the future, but some of our readers evidently give one credit for this power of divination. I am lead to make this remark in consequence of the large number of letters from readers who wish to know "how the market will probably go."

Candidly, I cannot see how there can be any break at present, and as a number of British mills are booked for raw materials well into 1921 it would appear that a good proportion of mill managers share the view generally held that matters are not likely to become easier for some time ahead.

Our contemporary and relation, *The Paper Box and Bag Maker*, recently returned to that vexed topic "Co-operative Buying," and gave a report of the first meeting of "Paperboards, Ltd.," a company which has been commented on in our columns from time to time.

I read that the Chairman, Mr. Crompton, is of opinion "that a good deal of loose talk has filtered round to the effect that the new company was out to get prices down and wage competitive war against merchants and firms in connection with the trade, and he wished most emphatically to contradict this misapprehension."

I do not think there can possibly be any misunderstanding as to the objects of an organisation formed for the purpose of collective buying, which is quite a laudable and, under certain circumstances, commendable enterprise. As Paper Boards, Ltd., is apparently already an assured success, certain middlemen must be affected unless their arrangement with the producers is such as to cover the ground taken over by such an institution as is now in operation in Birmingham. *The Paper Box and Bag Maker* is of opinion that a movement of this kind was largely the result of most unjustifiable profiteering by certain

holders of stock who had no consideration for consumers when they were in a position to squeeze buyers unmercifully. It is true that the Paper Commission was created in order to adjust grievances and secure fair distribution, and the same may be said of the Department of the Paper Controller, which, in certain directions, did very well. The fact remains, and it is useless to deny it, that there was shameful profiteering in regard to many of the essentials for the paper box factory and, although it is contended that "there was an orgy of profiteering and practically everyone was guilty of it, both employers and workers," the magnitude of this grabbing spirit cannot be said to justify some of the sharp practices which a buying co-operation will endeavour to circumvent.

I have frequently expressed the opinion that the interests of employers and workers are closely bound together, are absolutely interdependent and that, to use a homely expression, "they must sink or swim together."

On this subject I note that at a recent meeting in the City, some Utopian ideas were put forward, and no doubt if these could be mutually agreed upon we should arrive at an industrial millennium, but, human nature being what it is, the man with capital will protect his own interests if he can, and the worker, having nothing to dispose of save but his labour, would be foolish not to obtain fair treatment and as large a remuneration as he can reasonably demand.

Still, we must not miss the main point that there is bound to be a limit both in regard to prices of the finished article, and the payment incidental to the production from start to finish, and possibly this first principle is too frequently lost sight of. Notwithstanding a temporary slump there are indications that unless something unforeseen occurs Great Britain certainly will enjoy for some time extraordinarily good trade. We must one and all resolve to play the game and secure our full share of the benefits this trade boom may afford.

The golf encounter promoted by Mr. R. J. Triggs brought together representative paper and pulp men, who met under ideal conditions on one of the most beautiful courses in England—that of the Temple Golf Club, Maidenhead.

I ventured last month to hint that "my bit" was on the paper men, and, unlike the majority of tipsters, I gave the winners, although it was a very good fight, and if the match had to be played again I imagine it would be a very close thing.

The Temple Links cover about 400 acres of the well-known and beautiful Temple Park on the right bank of the Thames near Hurley, in Berkshire, and within easy reach of Maidenhead.

The 18-hole course is by nature an exceedingly sporting one, consisting, more or less, of a series of ridges which have been skilfully utilised by the designers, and the laying out of the course is one of which Willy Park and James Hepburn have every reason to be proud.

It may fairly be asserted that very few English golf links possess the beauties of Temple as regards the surroundings. From the terrace of the Club House the eye takes in a green expanse of English pastoral scenery which is bounded on the horizon by the bold, bluff outlines of the Chiltern Hills, and also takes in one of the most beautiful pieces of the Thames Valley by Marlow and Bisham.

(See also pages 236 and 237.)

"Foster Imperial Trade"

(MR. LLOYD GEORGE)

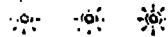
AND SPECIFY

WAYAGAMACK KRAFT.

Canada gives a 33½ per cent. Preference to British Manufacturers.



"The equal of any Scandinavian Kraft Paper, and a matter for congratulation that such a high quality is being produced in the British Empire."—Extract from *World's Paper Trade Review*.



MADE IN BRITISH EMPIRE.



SOLE AGENTS:

Hodge-Sherriff Paper Company,

CRAVEN HOUSE, KINGSWAY, W.C.2. 117, RUE CAULAINCOURT, PARIS, 18e.

Telephone : REGENT 402.

I am sure all those who had the good fortune to be present at the Paper & Pulp Match will agree with me that it is a real delight, after a round of golf in the bracing air of the links and a good luncheon, to sit in the Temple Club verandah and enjoy the view with one's coffee and smoke.

The match was admirably contested in a thoroughly sporting spirit, and the party adjourned to Mr. G. R. Hall Caine's charmingly situated residence and there enjoyed tea.

Whilst at "The Thicket," the visitors had the opportunity of seeing Mr. Hall Caine's racing stud, which included a very fine youngster, War Knight, said to have a sporting chance for next year's Derby.

The pulp men are already talking of having their revenge, and, if I am favoured with an invitation, I hope to have the pleasure of being there.

When the news was published that Messrs. Hugh Stevenson & Co.'s big business centring in Manchester and London, with ramifications in Scotland, had been acquired by Mr. Haytry there was a general exclamation in the trade, "Who is Mr. Haytry?"

According to Fleet Street authorities, Mr. Clarence C. Haytry, of the Commercial Bank of London, has acquired nearly fifty big businesses for his bank, or for disposal, and it is said that over £2,000,000 is involved in the purchasing of the businesses of Messrs. Hugh Stevenson & Co., and of Messrs. Grimond, Ltd., the well-known jute firm, of Dundee.

Mr. Haytry is said to be 31 years old, and started business as an insurance broker in London at the age of 23, and seven years ago purchased the Commercial Bank, then little known except in City and Financial circles. One writer says he is a shrewd business man who works ten hours daily, is a good sportsman, the owner of "Furious," which won this year's Lincolnshire handicap, and "Westward," one of the largest yachts in this country.

Congratulations and good wishes to Mr. and Mrs. Fred Gillis on their silver wedding anniversary. My friend and competitor, Mr. Gillis, is a competent and conscientious journalist who "plays the game," and has rendered the British paper trade valuable service. We have had honest differences occasionally and probably shall do so in the future and, incidentally, have met in the Law Courts.

Mention of litigation brings to mind the fact that in our great fight both sides "won," and were satisfied, and the eminent lawyers having pocketed a couple of thousand pounds said: "You are all good friends; shake hands, pay up and look pleasant." And we did. In fact Mr. Gillis and I had a nice little lunch together at Carr's cosy retreat, whilst the lawyers were telling the tale.

Mr. George Robey reminds me that he is raising money for the Printers' Pension Corporation and the children of printers killed in the war, and he will give an entertainment for the fund in October. One cannot conceive of a more deserving object.

The present trouble in the printing trade is particularly unfortunate, as some of the very best employers in the country are being harassed by a few men who defy their own organisations.

No sensible man in the year 1920 would contest the value of sound trade unionism and collective bargaining, and real trade unionists must lament the follies of the red-flag brigade. The wild men are undoing all the good work achieved by solid and sincere trade unionists during the past half-century.

If the cranks capture trades unionism this will be a happy (?) country and government as we understand it will cease to exist. As a well-known publicist says: "Just reflect where it would lead us. Teetotal railwaymen would decline to load beer and wines and spirits; vegetarians would refuse to soil their hands with animal food; non-smokers would leave tobacco to rot in the docks; Christian porters would have no truck with Jewish food and merchandise and in time every railway passenger would have to declare either his politics or his religion, or perhaps both, before the booking-clerk would issue him a ticket. 'Direct action,' in any case, is the negation of law and civilisation."

Miss Matilda Levy, who died last May at the age of 83, left £150,191 gross, with net personality £147,500. She was third daughter of the late Mr. Joseph Moses Levy, founder of the *Daily Telegraph*, and was aunt of the present Lord Burnham.

Miss Levy left £2,000 to be used by her trustees for charitable purposes, in addition to £1,000 to be used "according to her known wishes." As regards her shares in the *Daily Telegraph*, she wishes that these shall be kept in the family if possible. No person inheriting any of her shares is to take any action against the late or the present Lord Burnham or their executors, within 21 years of their death, regarding the conduct of the *Daily Telegraph*, as she had "full confidence in their integrity, and did not wish them to be fettered or subject to litigation" with respect to the paper. Sir John M. le Sage and Sir W. L. Courtney, of the *Telegraph*, are given £200 each under the will.

I am completing these notes on the eve of leaving England for Canada, where I hope to attend the Imperial Press Conference to be held in Ottawa shortly, and to visit some of the principal pulp and paper concerns in the Province of Quebec and elsewhere.

The Imperial Press Conference has a very direct interest for paper-makers, as the delegates not only buy enormous quantities of "news," but many of them also own and conduct important general printing businesses. I happen to know that some of the delegates have "big ideas" regarding Empire Trade, and I fancy we shall hear a great deal of the "Bond of Empire" as a real business proposition.

One live Lord said to me recently: "I am pleased to know you are going to the Conference you may be able to tell us when we may hope to obtain cheap paper."

A few days ago, at a trade gathering, I heard a well-known Parliamentary say that the air is clearing, and he also volunteered an opinion that, although the House of Commons, by a majority of 172, has formally endorsed the Excess Profits Duty for the present year at the increased figure of 60 per cent., the country will bear the burden, and this impost, bad in principle though it may be, is preferable to the various other fantastic suggestions for raising money, such, for instance, as the commandeering of so-called war wealth.

One of the most astute Lobby correspondents says that the Tax itself has hardly a friend in the House except,

perhaps, on the Labour Exchanges, where any tax is popular which does not fall -or appear to fall- on the so-called working classes.

During the Excess Profits debate Sir Godfrey Collins, a very useful member and one of the principals of a great Glasgow firm, contended that "the only sound alternative to the reduction of the Duty was a real and lasting reduction of national expenditure."

One of the most forceful arguments, which, however, did not appear to meet with much sympathy, was that by Mr. George Terrell, who emphasised the fact that all the representative British Trade Associations condemned the Excess Profits Tax, and that British firms registered here, but doing business abroad, were being pressed by their foreign shareholders to change their place of registration in order to escape the impost.

One of the big points in Mr. Chamberlain's speech seemed to be that "abnormal conditions make abnormal profits." It is curious to note that great commercial men in the House of Commons argue that the Excess Profits Duty, although vicious and disastrous to trade, is, on the whole, a lesser evil than the alternatives.

I do not claim to know what is in the innermost minds of the men who conduct the British paper trade, but I think I may say that the general opinion is that the Tax is bound to hit many progressive businesses very hard, and the effect will be to check industry and to create unemployment.

A few days ago a gentleman of international repute volunteered some interesting views on the Bolshevik peril, and during a stay of an hour at 47, Cannon Street, gave us a mass of information which may be fairly described as authoritative. His views are that the Poles and the Bolsheviks will very shortly come to terms, or, if such is not the case, a decisive battle will be fought very soon, and when we are on the eve of a better condition of things in Russia it will be of vast importance to this country. It is also significant that the Russian Soviet Government has accepted the conditions of the British Government for the resumption of trade.

I note that a Swedish contemporary, *Affärsvärlden*, deals editorially with the observations published recently by Mr. G. R. Hall Caine on the wood-pulp conditions in Canada and America. *Affärsvärlden* draws attention to Mr. Hall Caine's opinion that the mechanical pulp situation in the United States of America is a desperate one. Our contemporary also expresses the opinion that the Swedish sulphite market "has shown signs of stiffening in consequence of large enquiries from the States, and that several sales have taken place at \$10 to \$25 per 100 c.i.f., American ports," and it is expected that the American importers have to come into the market for further quantities this year.

In the meantime, British paper-makers do not appear to be unduly alarmed, and are content to "wait and see."

I was talking recently to an engineer who has been inspecting some of the devastated regions in France. He told me that the Germans having looted one mill and removed all they could carry away, applied hammers to the frame work of the machinery and battered them down. The boilers could not be removed, so the German soldiers amused themselves by using oxy-acetylene apparatus

and burnt out large pieces of the plates. Then, to complete the wilful destruction, they dynamited the foundations of the buildings and chimneys. These same gentlemen are now whining for practical sympathy.

I was surprised to receive a visit some days ago from Mr. Arledter--once well-known in Lancashire and for years associated with Arledter size and later with a vacuum beater which was boomed extensively just before the war. The beater was tried experimentally at Croxley and at Loudwater, and I believe it came to an untimely end. Mr. C. R. Seddon was one of the first who investigated the vacuum beater idea and he came to the conclusion that the patented apparatus would not do anything the ordinary beater, under certain conditions, could achieve.

I fancy Mr. Lewis Evans and Mr. Bigland, M.P., were convinced at one time that the vacuum beater was a wonderful idea, but after a lot of money had been spent nothing tangible resulted.

Mr. Arledter is now residing in Bournemouth and he says that he was in Austria on business when war broke out and was pressed into the Austrian Army, with which he had a rough time. He is interested in a big scheme on the Continent and tells me that in effect Austria is "run" by the British and that British officials are in effect in charge of things generally there.

I have received from a gentleman, who is extremely well-informed on Canadian matters, the opinion that there is no indication of any slackening in connection with the paper business in Canada--in fact, rather the reverse is the case, and it is not improbable that all the mills will be running full time right through the winter.

My informant adds that the situation which appears to be the most critical is that of ground wood, as on account of the approaching hot weather and the lack of stocks on hand, it is possible that prices will go to a level which six months ago would have appeared absurd.

I was pleased to have a chat with Mr. Wiborg, of Moss Cellulosefabrik, who recently paid a hurried visit to London and various provincial centres before making a tour of the Continent.

Mr. Wiborg has no hesitation in predicting that prices of paper will still go higher. His opinion in regard to kraft is particularly valuable, and although he is well aware that kraft papers, good, bad and indifferent, have been sold at various prices of late, he is convinced that the market for kraft papers will not be easier, but that probably prices will harden. Mr. Wiborg's experience is that although there has been a general holding off from buying, some of the big buyers are now placing substantial orders and he will not be surprised if some of the smaller people are "left" pretty badly.

The Moss mill is not one of the false measure mould, and orders are accepted carefully and not too far ahead. I quite agree with Mr. Wiborg that some of the prices mentioned lately in connection with kraft sold in this country are not representative orders indicating the real market price to-day.

There are many small people dabbling in the paper trade now-a-days, and when settling day comes round some of these are compelled to clear at the best price obtainable.

J.L.G.

THE PULP AND PAPER INDUSTRIES OF FINLAND.

THE RECENT VISIT OF BRITISH NEWSPAPER REPRESENTATIVES.

By H. G. PHILL.

It may be recalled that in the June number of THE PAPER-MAKER, in the course of an account of my visit to Scandinavia and Finland, I mentioned that I had the pleasure of having Mr. and Mrs. Reeve Angel, of London, as fellow passengers during the voyage from Finland *en route* for home. It was on that occasion Mr. Reeve Angel informed me that he had arranged for a party of British newspaper proprietors to visit Finland as the guests of the Amalgamated Finnish Paper Industry with the object of bringing Finnish paper manufacturers and British paper consumers into closer touch with one another. Mr. Reeve Angel extended a personal invitation to me, which, it need scarcely be said, I was very glad to accept, the more so as I had been obliged to curtail my first visit to Finland. It was therefore with some satisfaction that on the afternoon of May 31 last I found myself aboard the s.s. *Arcturus*, of the Finland Line, at Hull, the port of departure. In addition to Mr. and Mrs. H. Reeve Angel, the party consisted of the following ladies and gentlemen: Mr. R. H. Baird (*Belfast Telegraph*), Mr. and Mrs. Blanch (*The Observer*), Mr. and Mrs. Birchall (*Liverpool Courier and Liverpool Evening Express*), Mr. and Mrs. E. Child (H. Reeve Angel & Co., Ltd., New York), Mr. and Mrs. Crabtree (*Yorkshire Evening News*), Mr. Crosfield (*Daily News and The Star*), Mr. and Mrs. Derwent (*Bradford Telegraph and Yorkshire Observer*), Mr. Fifoot (*News of the World*), Major and Mrs. Ford (*Birmingham Post and Birmingham Daily Mail*), Mr. Grotian (*Hull Daily Mail and Hull Times*), Mr. and Mrs. Jeremiah (*Daily Sketch, Evening Standard, Daily Dispatch, Illustrated Sunday Herald and Manchester Chronicle*), Mr. and Mrs. Neil Munro (*Glasgow Evening News*), Mr. and Mrs. Ridgway (*Daily Mail and Evening News*), Mr. and Mrs. Scott (*Manchester Guardian and Manchester Evening News*), Mr. and Miss Simington (*Irish Times*), Mr. A. E. Spender (*Western Morning News*), Mr. and Mrs. Thornton (*Yorkshire Post*), and, of course, myself. Before sailing we had ample opportunities of becoming acquainted with one another, for owing to the arrival of some four hundred third class passengers from Liverpool on their way from America to Scandinavia it was not until the following morning the *Arcturus* was able to begin her voyage. With everyone in the best of humour, our party after the usual introductory courtesies quickly developed a spirit of comradeship which augured well for the social success of the trip, at any rate. Add to this an excellent steamship, courteous and obliging captain, officers and company, and a smooth sea, and it may be said that our voyage began under the most favourable auspices. It is unnecessary to enumerate the various methods by which we spent our time crossing the North Sea. Suffice it to say that no member of the party experienced more than the slightest inconvenience arising from *mal de mer*, and that it was a very happy band of voyagers which arrived at Copenhagen on Thursday, June 3. I should not, however, forget to say that during the passage an excellent concert was given on board and at its conclusion a small Finnish flag was put up for auction, its sale realising £80 for the poor children of Finland.

On arrival at Copenhagen, we disembarked after an early breakfast, and, separating into groups, we severally did the sights of Denmark's beautiful capital. The ladies

were particularly struck with the number of handsome shops, and indeed the city is probably the finest shopping centre in Scandinavia. Luncheon was partaken of at the Hotel d'Angleterre, but not served! By that I mean that everyone had practically to help him or herself as a consequence of a waiters' strike in Copenhagen. However, we managed to satisfy our hunger, and the experience was a novel one.

At half-past three we were once more aboard the good ship *Arcturus*, and skirting the southern shores of Sweden a distant view of Malmö was obtained. The passage up the Baltic was made without incident, and by Friday we were in Finnish waters. It was, however, not until the following evening, about half-past six, that we reached Helsingfors and left the *Arcturus*, after a most enjoyable voyage. We had been first, however, cordially welcomed by Col. Gosta Serlachius, Mr. Hjalmar Gronvik, and others associated with the organisation of which we were the honoured guests. Going ashore, our baggage was passed through the Customs House without the usual examination, a courtesy which saved time and was much appreciated. Mr. Reeve Angel's luggage was so monumental that its size could only be accounted for by the idea that he had taken an agency for a firm of British trunk manufacturers who had furnished him with samples. Considerable curiosity had been aroused during the voyage respecting these trunks, and it was at length suggested that they contained printed copies of "Article IX," for distribution among the members of the party on reaching Finland. *Verb sap!*

Our party was now divided into three groups—one, under the guidance of Mr. Gronvik, making the Societets-huset Hotel their headquarters; the second, under Baron Wrede, proceeding to the Hotel Kampe; and the third, under the ciceronage of Mr. P. Bertel Fabritius, to Brändö Strandhotel, about three miles away in the suburbs. Each section was entertained to dinner at its appointed hotel by the respective "hosts," and if everybody fared as I did then the hospitality accorded us was of a most sumptuous description. At any rate, I heard no grumbling. Subsequently, a walk and an informal discussion of "Article IX," with Mr. Gronvik at the Hotel Kampe brought our programme for the day to an end, and in due course we were all sleeping the sleep of the just.

About noon on the following day (Sunday) the Societets-huset and Kampe contingents joined forces on a steamboat for Brändö, which can also be reached by motor. At Brändö we disembarked, and after being welcomed by the remainder of the party, made our way to Strandhotel, where we had luncheon, at which Col. Serlachius, in the course of a speech, said it was not for business interests only they had desired us to visit the country. He went on to say: "We also hope to interest England in our small and poor country, and also to be able to prepare the way for the two peoples to draw nearer together. It is true that our country had won its independence quite recently, but we have already for many centuries lived our own national life. England has only a slight knowledge of our land, but that was their own fault, because it is our duty to make its country known outside its frontiers, and it had been an omission on their part. It is still believed that we are living in a state of nature, that reindeers are the only means of getting about, and that our education is on the same level. It is, therefore, a very

THE
KING'S MILL BOND

I.g.c. Post 10lbs. Medium 12lbs.
Dble. Cap. 14lbs. Dble. Crn. 18lbs.

A PAPER OF EXCEL- **MILL** ALWAYS IN STOCK OR
LENCE & SATISFACTION **4 1 7** PROMPT MAKING

*Finest English Copying, White and Buff
Banks, Bonds, Typewriting Papers
Cream Laid and Woves, Music Papers
No. 1 & No. 2 Grade Printings, Cheque Papers
Finest Glazed Imitation Parchment,
Greaseproofs, M.G. Sulphite and Krafts*

REELS AND SHEETS

**NATIONAL PAPER & PULP
COY. LIMITED**

Paper Mill Owners & Agents

66 UPPER THAMES ST., LONDON, E.C.4

TELEPHONE:
CENTRAL 981
" 1814

CABLES:
"WOODPULP, CANNON,
LONDON."

great pleasure for us to be able to welcome so many celebrated representatives of the English press. It is a special pleasure for us that these representatives did not shrink from the journey. I venture to express the hope that when our honoured guests are travelling through our land they will be able by their own eyes to convince themselves that we do not go dressed all the year round in wolves' skins, and that the summer in Finland is warmer than at the North Pole, and that we are not using reindeers but

then the object of your kind visit will have been attained."

Brändö is a favourite summer resort, its chief attractions being bathing and yachting, but these charms were by us passed by for a tour by motor car through the neighbourhood, visiting Djurgården, Munksaas, the National Museum, Observatory Hill (from which a fine view of Helsingfors was obtained), and Brunsgränd. In the evening we were entertained to dinner at the famous Klippan



1. COLONEL GOSTA SERIACHUS (PRESIDENT, AMALGAMATED FINNISH PAPER INDUSTRY). 2. GENERAL RUDOLF WALDEN (CHAIRMAN, FINNISH PAPERMILL ASSOCIATION). 3. MR. HJALMAR GRÖNVIK (MANAGING DIRECTOR, FINNISH PAPERMILL ASSOCIATION). 4. MR. JACOB VON JÜLIN (CHAIRMAN, FINNISH CELLULOSE UNION). 5. MR. WALTER GRASBECK (MANAGING DIRECTOR, FINNISH CELLULOSE UNION). 6. MR. WALTER RAMSAY (CHAIRMAN, FINNISH BOARDMILL UNION). 7. COLONEL VIKTOR FAYRE (MANAGING DIRECTOR, FINNISH BOARDMILL UNION).

horses and tractors for our work, and that in some towns the progress has even gone so far that we are about to electrify tramcars. If our honoured guests further would discover that we are not Bolsheviks, and that liberty, and peace, and order are prevailing in our country, and that our industries, and specially our paper industry, is making swift progress, and that we are not lacking in economic resources for ensuring a good future for our country, and also that our education can be compared to that of other civilised countries, and see we consequently have possibilities of further developing our newly-won independence--

Restaurant, delightfully situated on an island near the harbour.

The following day (Monday) we boarded a steamboat and visited the old fortress at Sveaborg, Mr. Tanderfelt, the artist, acting as our guide. It was once named the "Gibraltar of the North," and it was not difficult to judge how it came to be so called. In the hands of the Russians it was a stronghold of some note until the construction of other fortifications on islands about five miles distant led to its becoming practically obsolete for defensive purposes. Luncheon was served at the officers' casino,

EDWARD LLOYD, LIMITED.

Paper Makers.

Head Office:—

**4/7, SALISBURY COURT,
FLEET STREET, E.C.4.**

Telegraphic Address:
"TRIENNIAL," FLEET, LONDON.

Telephone Number:
7155 CITY (8 Lines).

NEWS. PRINTINGS.

PAPER MILLS:

Sittingbourne, Kent.
Vittingfos, Norway.

Production:

**150,000 TONS PER
ANNUM.**

MECHANICAL WOOD PULP MILLS:

Honefos, Norway.
Vittingfos, Norway.

Production:

**80,000 TONS PER
ANNUM.**

BRITISH NEWSPAPER REPRESENTATIVES IN FINLAND.



1. ON THE BRIDGE.—MR. SCOTT, MR. CROSFIELD, MR. RIDGWAY, AND MR. FIFOOT. 2. A GROUP ON THE PROMENADE DECK. 3. MR. FIFOOT ON THE LOOK-OUT;
MR. REEVE ANGEL, MR. THORNTON, AND MR. BURCHALL BEHIND HIM. 4. ANOTHER SNAP ON THE PROMENADE DECK. 5. ENTERING HELSINGFORS
HARBOR, THE RUSSIAN CHURCH IN THE BACKGROUND. 6. ANOTHER VIEW OF THE HARBOR, WITH THE LUTHERAN CHURCH ON THE RIGHT.

STAR MILLS
LTD

GEO. CHURCH & CO

LTD

STAR MILLS

WAXED
WATERPROOF
PITCH OILED AND
MANIFOLD PAPERS

and brought a most interesting item in the programme arranged for us to a close.

Returning to our respective hotels we began preparations for what was an event of considerable importance to us—the official reception of our party. This took place at Societetshusets Hotel at 8 p.m., when we were welcomed by Col. Serlachius (president), Baron Gustaf Langenskiöld (vice-president), and Dr. Leo Ehrnrooth (general managing director), of the Amalgamated Finnish Paper Industry; Mr. Wolter Ramsay (chairman) and Col. Victor Favre (managing director), of the Finnish Boardmill Union; Mr. Jacob von Julin (chairman), and Mr. Walter Grasbeck (managing director), of the Finnish Cellulose Union; General Rudolf Wahlen (chairman) and Mr. Hjalmar Gronvik (managing director), of the Finnish Papermill Association. Others who received us with the utmost cordiality were the Prime Minister of the Republic of Finland, Mr. R. Erich; the Minister of Commerce, Dr. Leo Ehrnrooth; the Minister of Communications, Mr. Magnus Lönnermark; the Foreign Minister, Mr. Rudolf Holsti; the British Minister, Mr. Kidston; the British Military Attaché, Major Scales; First Secretary, Mr. Hicks Beach; and the British Consul, Mr. Cyril H. Mackie, who also accompanied the party through the country.

Inclusive of the British delegation there must have been some 200 guests at what was, indeed, a very interesting function, affording as it did an opportunity of meeting so many representatives of the political, industrial, and commercial life of Finland.

In according a hearty welcome to the British representatives of the newspaper world, Mr. de Julin said that they were also very glad to see there the official British representative, Mr. Kidston, a number of members of their own Government, including the Prime Minister, while at the same time they had the honour of seeing as their guests in the country so many prominent representatives of Great Britain. The relations between the United Kingdom and this country had always interested them very greatly. He need scarcely mention that the Finnish-sawn timber, Finnish pulp, and Finnish butter had always found a good market in England; while on the other hand industrial products and raw material from the United Kingdom and its colonies had always been welcomed in Finland. The textile industry used almost exclusively English machinery, and he would say that there were exceedingly few of their industries in which they could not find machinery from England. Their steamers and mercantile marine came chiefly from the United Kingdom. They were driven by British coal, and before the war British coal was also used by the Finnish railways. The party were no doubt aware of these facts, but he could not omit saying that everyone in Finland who had done business with English people had recorded their deep admiration for English business methods. Remote and small as this country was, Mr. de Julin said it had naturally not been able to raise the same interest in the great British nation as other countries, which were richer and had a better geographical situation. Owing to the dependence of their country on Russia during the last 100 years, it had been difficult for them to make themselves as well known as they should have wished. Russia had always tried to keep Finland in the shade. After the war of Independence of the year 1918, they obtained freedom from their dependent position and, so to speak, stood on their own feet. Since then they had tried to make their own country known, and to inspire in other countries that confidence on which every good and lasting relationship must be built. (Applause.) They therefore valued very highly the friendly way in which they had accepted their invitation. With their permission he would ask their attention for a moment, in order to try and give them a short account of the progress of the paper-industry

from the earlier ages. Civilisation and paper had been closely connected from the earliest times. The earliest writing on paper was believed to be the "Papyrus Roll," preserved in the National Library in Paris. It dated from 3,500 years before the birth of Christ. It was, therefore, 5,400 years old, and in these times paper was made of an Egyptian plant called *Cyperus Papyrus*. China was believed to have been the first country to make paper on more or less the same method as was now used in the paper mills. In the year 1640, when Åbo University was founded and the first real flower of Finnish civilisation saw the light, it was natural that paper came into the programme of advancement. In the first few years of the Academy's existence imported paper was used, and there were indications that in 1665 the Academy received permission to import, free of customs duty, 100 reams of paper, a quantity which was afterwards increased. The first known papermill in Finland, was founded as far as they knew, in 1660, but it only worked for a short time. The oldest mill in Finland, which was still working, was founded in 1779, and had been known since 1832 by the name of J. C. Frenckell & Son Company. The next papermill to be established was Terwakoski Company, which was founded in 1918. About ten other papermills were then founded between 1820-1860, but none of these still existed. All of them made ragpaper by hand, and it was not until 1860 that the first woodpulp mill in Finland was established. In 1860-1885 a number of pulping mills grew up in connection with papermills and most of them were still working. He might mention that among these was Wanttā, which was owned by the G. A. Serlachius Company, founded in 1864, and Kymmene Mills, founded in 1872-73. In the year 1885 the paper industry again entered upon a new era through the beginning of the chemical papermills. The first chemical papermill (Natrium method) was built at Walkiakoski, and the first sulphite papermill at Nokia. The nineties of the last century formed another new phase in the history of the paper industry in certain sulphite pulp factories, which were still of importance in the country. They were built between 1900-1913, and at this time sulphate papermills began to grow up in large numbers. Continuing, Mr. de Julin gave some interesting figures which showed the development of the paper industry, papermill, cardboard mills, etc., in Finland during the last 35 years. In 1885, he said, they employed 2,100 workers; in 1905, 4,110; in 1909, 9,117; and in 1919, 14,939 workers. In 1885 there were 27 mills; in 1895, 37; and in the year 1900 the number was 51, while to-day there are nearly one hundred. Dealing with wages, he said that the amount paid in the paper industry in 1909 was 7,537,249.09 marks for 6,587 workers; in 1914, 9,511,485.91 marks for 9,232 workers; in 1919, 54,330,215.71 marks for 14,939 workers. The sawing mill industry had not such lengthy traditions in the country, but he would mention that in this department from a small beginning with the watermills and hand-sawing, it had gradually grown since the middle of the 19th century, when steam came into use, till it was now one of their largest and most important export industries. The support always given to this industry in Great Britain had certainly been the driving force of the development. He had not been able to get the old statistics of the saw mill industry, but in 1899 they exported 460,000 standards, in 1913, 624,000 standards, and they estimated the export for this year at about 750,000 standards. The wages paid in the saw mill industry were, in 1915, 7,106,297.59 marks for 10,414 workers; in 1919, 46,254,436.93 marks for 12,009 workers. They would see from this that Finnish industries had made swift progress during the last few decades. Moreover, they had courage to look forward to the future full of optimism because they did not consider that the progress was anything like finished.



ENGLISH CHINA CLAYS LTD

Largest Clay Producers
in the World

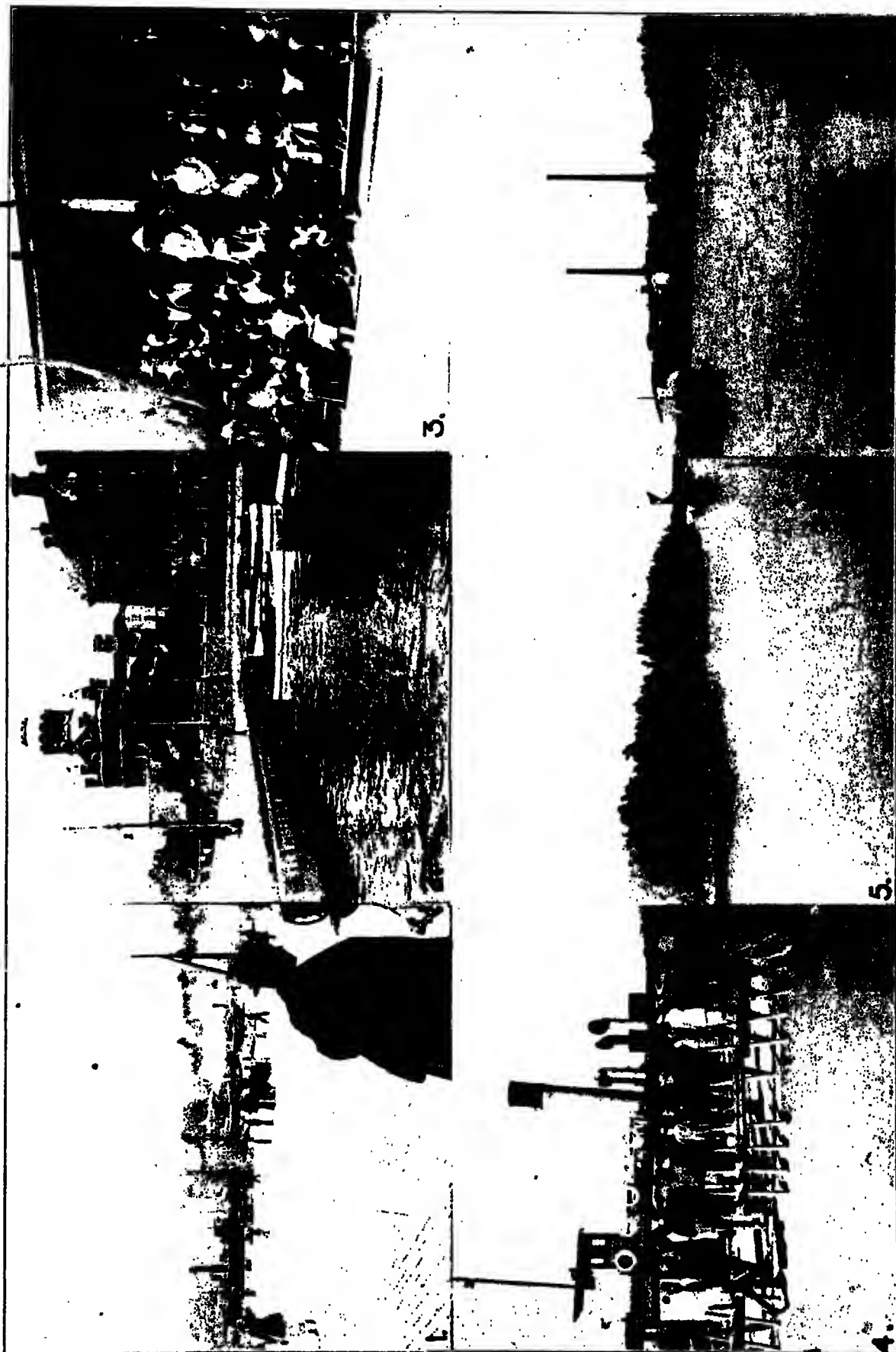
500,000 TONS ANNUALLY

EXCEPTIONAL FACILITIES FOR PROMPT DISPATCH. DRYING
KILNS ALONGSIDE RAILWAYS—OWN SIDINGS AND TRUCKS.

DEPÔTS:

RUNCORN, GARSTON, FLEETWOOD, LEITH, BO'NESS, GLASGOW & CHATHAM

BRITISH NEWSPAPER REPRESENTATIVES IN FINLAND.



1. THE MARKET PLACE AND HARBOUR, HELSINGFORS. 2. THE RUSSIAN CHURCH. 3. OUR PARTY AT THE OFFICERS' MESS, SVEABORG. 4. RE-EMBARCKING FROM SVEABORG FOR HELSINGFORS. 5. SCENE IN THE FINNISH ARCHIPELAGO. 6. VIEW OF GUTZEITS' MILLS AT KOTKA.

PAPER MAKING MACHINERY
of EVERY DESCRIPTION.



CODES:

TELEGRAMS:

"MILNE, EDINBURGH."

A.B.C. 4TH & 5TH EDITIONS.

MARCONI INTERNATIONAL.

(Applause.) According to calculations that have been made, the country still possessed vast resources in forests that had not yet been opened up. They would be of good value for the supply of raw material for the paper industry in the years to come. One calculation that had been made showed that the private and state owned forests of Finland contain about 450,000,000 cm. of timber which was suitable for pulp making. According to the present rate of production of this raw material it would last for 145 years without considering at all the annual growth, in other words they could easily double their production, without diminishing their forests. He hoped, continued Mr. de Julin, that on the journey, the programme of which was already in our hands, that we would see the Archipelago which protected their coasts and also some of the most important industrial centres in the country. They would also see their lakes, the natural water-ways, by which they brought the raw materials down to the mills. Their forests, which supplied that raw material and the rapids, which were the driving force. They hoped that we would carry back to their country a pleasant memory of their stay in Finland. They would try, while they were there, to show them that they were endeavouring to perform good and conscientious work which would guarantee their place among the free nations of the world. (Applause.) Mr. Julin concluded with the amusing remark that he was glad to notice that the party had brought with them one of the best features of England—the ladies. (Loud laughter.)

The banquet over, our party again separated until the next morning (Tuesday), when we were all astir early, and boarded the s.s. *Ebba Munk*, belonging to Finnish Steamship Company, whose guests we were on that occasion. Kotka, well known for its pulp among British paper-makers, was our destination, and as it was about nine hours' journey, the admirable luncheon to which the company entertained us was greatly appreciated. The trip through the Finnish Archipelago was a delightful one and many were the expressions of admiration of the scenery we passed. Our journey ended at 7 p.m., when we were received on the quay by Mr. Brofeldt, of the famous firm of Gutzzeit & Co., who addressed us with a few words of welcome. Each member of the party was then presented with a specially printed copy of the *Nokka Nyheter*, a 4-page local journal, the leading article of which extended "Greetings to the Representatives of the British Press." A short history of the town stated that Kotka, the Finnish word for eagle, is the name of one of the thousand islands in the Gulf of Finland, and the town is built on the island. On account of its favourable situation, Kotka has become one of the most important ports in Finland for the export of timber, paper and woodpulp. It is here that the well-known firm of Aktiebolaget W. Gutzzeit & Co. have their headquarters, owning three saw mills in Kotka and one saw mill in Ruttois, in addition to a large soda pulp mill, the annual output of which is about 30,000 tons of soda pulp. The majority of the shares in this Company belongs to the Government of Finland, which purchased them from the Norwegian founders in 1918. The managing director of the firm is now Consul Herman Heiberg, the manager of the pulp mill being Engineer Olof Glöersen. The mill is equipped with ten digesters and two drying machines. An associated firm is Halla Aktiebolag, whose mill produces about 10,000 tons strong and easy bleaching sulphate pulp. Mr. K. Brofeldt is the managing director of this branch of the Company, which also possesses two saw mills, one at St. Michel and another at Mäntykari. It was interesting to learn that both companies are the owners of large forest areas, the Gutzzeit Company possessing about 1,225,000 acres, while the Halls Company owns about 550,000 acres. Another important pulp mill is that of the Karhula Osakeyhtiö, whose works are situated near Kotka

by the Högfors branch of the River Kymmene. The pulp manufactory has a normal production of 7,000 tons of woodpulp and cardboard, all of which is sold, I was told, through the Union of Finnish Woodpulp Mills at Helsingfors.

WOOD PULP SUBSTITUTES.

STILL THEY COME.

The Manchester correspondent of the *Financier*, in a recent issue of that journal, referring to the process for the conversion of peat into mechanical pulp, invented by Dr. A. L. Burlin, to a demonstration of which we referred in our last issue, states that Dr. Burlin and his backers are putting down works in Trafford Park, Manchester, for the exploitation of this new papermaking process, and the results of the venture upon a commercial scale will be awaited with much interest by people interested in mechanical pulp, papermaking, etc. So far, the general public is not being asked to put up any capital for this peat-to-paper proposition, as Dr. Burlin has obtained sufficient backing to enable him to bring the process up to the commercial stage at least.

Early last month, we were called upon by a lady who does not for the present wish her name to be known, and who showed me a prepared fibre substance upon which she had obtained the following opinion from Messrs. Cross and Bevan:—

"We have examined your prepared fibrous material and find it yields on a small scale treatment, 57 per cent. bleached cellulose or pulp, as available for paper making. Treated by paper mill methods we estimate the yield at 50 per cent. The raw treated fibre, as received, is in a clean state and satisfactory and free from impurities which would lower the quality of the bleached cellulose. The pulp shows a good length of fibre and good general paper-making quality. At present rate we estimate it to be worth £30-35 per ton in the fully air-dry state. With the small quantity you have sent as specimen we are only able to estimate approximate value, and we can only advise you as shown. For closer valuation we should require to know the source and identity of the original raw material and in regard to best value on treatment we should want information on the processes which you have desired adopted."

We understand that the substance was discovered by the lady already mentioned, in December, 1908, and that it can be acquired in illimitable quantities. Great secrecy was maintained as to the source and identity of the raw material, but we are informed that the matter has been placed before the authorities at the Imperial Institute.

The *Daily Telegraph* states that from successful experiments which have been carried out at Para it appears that the fibres of a plant known as aninga, which grows freely in marshy districts of South America, are likely to prove of great value as a substitute for wood pulp in the future. The valuable qualities of the new fibres were realised more than ten years ago, but the rapid development of the rubber trade has temporarily overshadowed the possibilities of the new and valuable source of cellulose. The chief advantages claimed by those who are endeavouring to introduce the aninga product are that the abundance of the crops, and, above all, the comparatively simple treatment necessary, will enable manufacturers to supply the paper pulp at a lower rate than it can be obtained from Norway or any other European country. It is said that the quality of the cellulose is very good, and that the yield of paper is 20 per cent. greater than from Norwegian pulp. One prominent Brazilian chemist asserts that the aninga fibre can be treated so as to give a product superior to cotton, inasmuch as the filaments of the latter under the microscope appear twisted, while the Brazilian fibres are quite straight.

MITC COUCH RO



The late R. J. C. Mitchell's Patent.

THE LIFE OF THIS JACKET IS UNSURPASSED.

WORKING ON MACHINES NOT ONLY IN THIS COUNTRY,

MITCHELL BROTHERS' BRANCH

of

MITCHELLS, ASHWORTH, STANSFIELD & Co., Ltd.,

MITCHELL'S L JACKETS

Applied with signal success in the manufacture of
ALL CLASSES OF PAPER and adopted by the
largest Paper Mills throughout the Universe.



Mitchell's Jacket is still "running" and holds all records.

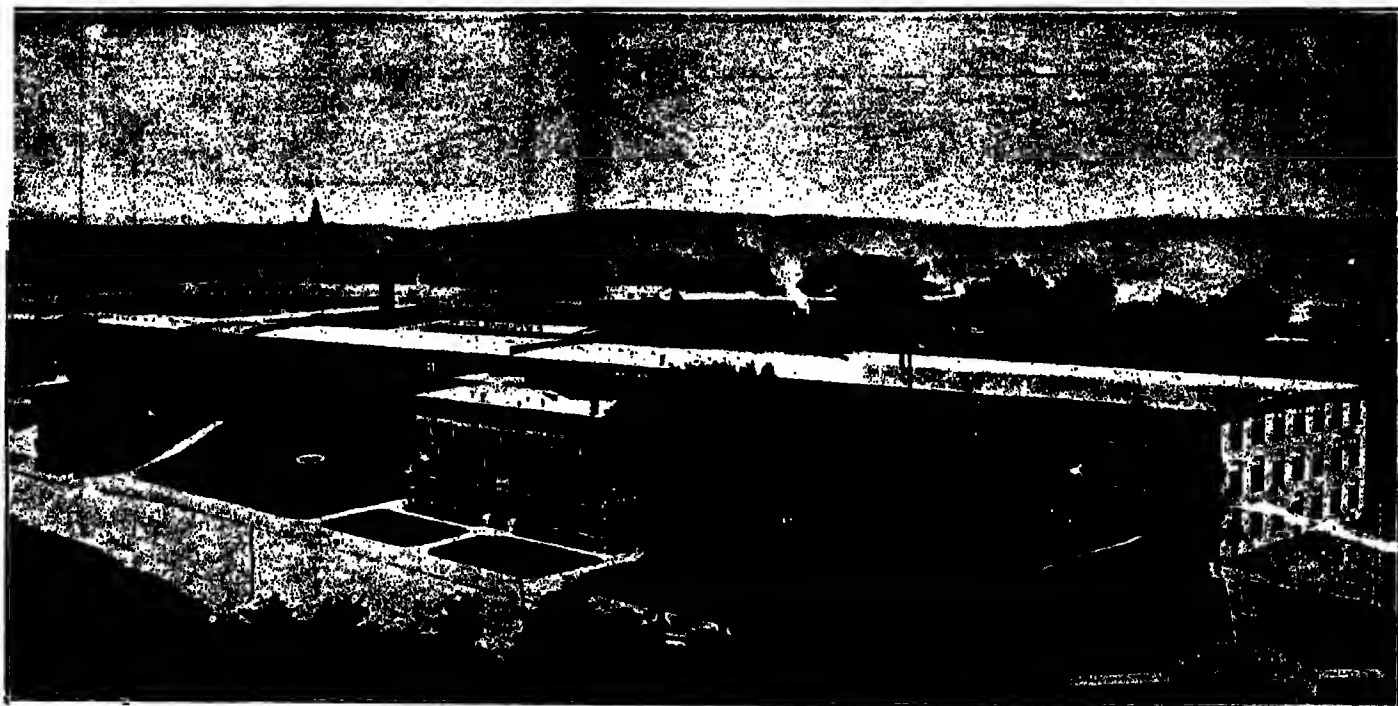
BUT IN ALL PARTS OF THE CONTINENT AND THE WORLD OVER.

ALBERT WORKS, WATERFOOT, Nr. MANCHESTER.

LONDON WAREHOUSE 23 & 24, Old Bailey, E.C.
MANCHESTER WAREHOUSE (Home Trade) .. 45, Newton Street, Manchester.

Telephone :
30 WATERFOOT.

Telegraphic Address :
"MITCHELL'S, WATERFOOT."



F. C. HUYCK & SONS

Manufacturers of Woollen

FELTS AND JACKETS

for Paper Machines

ALBANY, N.Y., U.S.A.

Inquiries and orders requested through the following agents,
who will furnish samples, prices and full information :

FOX, STOCKELL & CO., 61, St. Mary Axe, London, E.C.3.

Agents for United Kingdom, Holland, Belgium, France and Spain.

LORENTZEN & WETTRE, Christiania, Norway.

Agents for Norway, Finland, Russia and Denmark.

LORENTZEN & WETTRES MASKINAFAR, Stockholm, Sweden.

Agents for Sweden.

SOCIETA COMMERCIALE ITALO-SCANDINAVA, Genoa, Italy.

Agents for Italy.

THE TOYO SHOKWAI, Tokyo, Japan.

Agents for Japan and China.

PARSONS TRADING CO., 17, Battery Place, New York, N.Y.

Agents for South America, Australia and India.

Obituary.

THE LATE MR. T. Y. NUTTALL, J.P.

E deeply regret to record the death of Mr. T. Y. Nuttall, J.P., of the firm of Cooke & Nuttall, Ltd., Horwich, and T. Y. Nuttall, paper importer, Manchester, which took place at his residence, Parkside, Whitehall, Darwen, on the 21st ult. The deceased gentleman was sixty-eight years of age, and had been ailing for a few years from heart trouble, but up to quite recently he had visited the Horwich mill and the Manchester offices regularly, there being no suspicion even by members of his family and intimate friends that the end was so near. In fact, the deceased was at the Manchester offices as usual just four weeks previous to his death—his mental faculties being as alert as ever—conducting his business in his usual cheery way and showing no unusual weakness or fatigue. He was confined to his house exactly three weeks, gradually growing weaker, yet it was hoped that a revival might follow. However, the day previous to his demise, hope was abandoned when he lapsed into unconsciousness, and at eight a.m. on Wednesday, July 21, he passed peacefully and painlessly away in the presence of his family. He leaves a widow, one son and a daughter to mourn his loss. The late Mr. Nuttall was a native of Darwen and was the architect of his own honourable position in life. Starting work at the age of eight as a half-timer in a local factory warehouse, he joined the evening classes at the Old Mechanics' Institute, an establishment famous for turning out students who subsequently made their mark in the commercial world. Being of a studious turn of mind from his earliest years, Mr. Nuttall made rapid progress at the classes, and especially in commercial knowledge. Leaving Darwen at the age of nineteen, he became associated with the Co-operative Wholesale Society at the headquarters at Manchester, where he gained an extensive and varied knowledge of business methods, including accountancy, which stood him in good stead for his future position in the world of commerce. Forty-seven years ago he first became acquainted with the paper trade in connection with the Darwen Paper Co., where he stayed for some twenty-four years, attaining the position of secretary and salesman, which, needless to add, he maintained with conspicuous success. Mr. Nuttall left Darwen to start the paper mill at Clondalkin in conjunction with the late Mr. Joshua Hacking, and after doing useful service there, he determined to commence business on his own account. He returned to Manchester

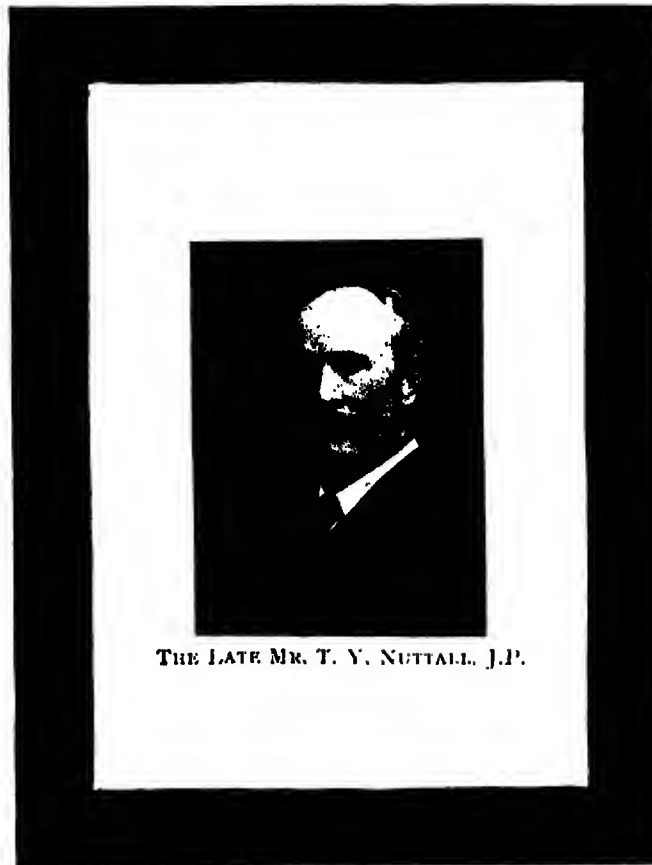
and founded the firm of T. Y. Nuttall, still carried on under that title. His next venture was at Horwich, where he became a partner with Mr. Horace Cooke in 1897. Here he found full scope for his remarkable energy and varied gifts. He rebuilt the mill, replaced the old machinery by the very latest up-to-date plant, the water supply was increased, and everything done to make the mill one of the best equipped and most up-to-date paper works in the country.

As an employer, Mr. Nuttall had the rare qualities of heart and mind to create enthusiasm in his staff. An enthusiast himself, he had the gift of imparting it to others. Moreover, he had the keenest perceptive faculty in selecting his staff, and it is correct to say that he never failed to gain the respect, even affection of those who came in close

contact with him at the office, mill, or outside. During his stay in Darwen he became a prominent figure in the town in the period when serious litigation occurred in connection with the water rights and water pollution difficulties. Mr. Nuttall gave considerable care and attention to this matter, which brought him into close contact with the legal profession. He fought the battle of the Darwen paper mill successfully, and at the same time earned high praise from the judicial bench for the able manner in which he watched and defended the interests of his firm. During that period in his career Mr. Nuttall had close trade relations with Canada, which he visited many times in connection with the Canadian pulp mills. To illustrate how thoroughly he went into things, he did not hesitate to go to the backwoods of the Far West, and even live the life of the rough log men in order to gain knowledge about pulp which he otherwise could not possibly have obtained.

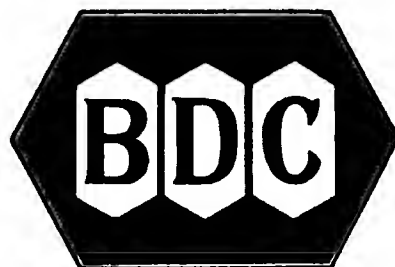
Mr. Nuttall's thirst for general knowledge took him further afield, to the Southern Continent, Spain, and Portugal in order to study the fibrous materials, such as esparto. He also visited Northern Europe, as far as Finland, which naturally enlarged his already varied and valuable knowledge of the paper and pulp trade. His connection with the Paper Makers' Association covered a long and important period in its history. At one time he acted as hon. secretary, and also sat on the Northern Committee for many years, and acted as chairman for a considerable time. He was a well-known figure in all paper trade circles. He regularly attended its meetings and conferences, while at the annual dinners in London he figured prominently, and his utterances were always followed with deep interest. He was a fluent, racy speaker, and had always something practical and arresting to proclaim, interspersed with real wit and humour.

Acknowledged in the trade as a man of sterling worth, he also figured prominently in London among buyers and



THE LATE MR. T. Y. NUTTALL, J.P.

BRITISH DYESTUFFS CORPORATION LIMITED



TRADE-MARK

**Manufacturers of
Coal Tar Colours
and
Intermediate Products**

**Sales Office :
70, SPRING GARDENS, MANCHESTER**

agents, and very often—almost every month—he was dealing with arbitration cases, every confidence being placed in his decisions by both sides, whether favourable or otherwise.

He was a regular attendant on Manchester 'Change and at a certain famous café near by, where all the prominent paper and pulp men meet in conclave, etc., every Tuesday.

Outside the paper trade he had innumerable friends and acquaintances, and took a warm interest in all questions of the day, while as a native and resident of the borough of Darwen he was ever to the fore in any good work for the welfare of the community, whether charitable, religious, or political. Being an enthusiastic member of the National Liberal Club, London, and a good speaker, he had often been invited to seek Parliamentary honours, and to become a member of the Darwen Municipal Council, etc., but he always declined, preferring to concentrate his attention on his business, to which he was wholly devoted. Some eight or nine years ago he was appointed a borough magistrate, and regularly carried out his duties on the bench.

During the war, Mr. Nuttall, though in a poor state of health, took the whole control of the mill, and successfully piloted it through the difficulties then experienced during the absence of his son, Captain W. E. Nuttall, R.A.F.

A biography of Mr. Nuttall's remarkable career would not be complete without due reference to one episode that illustrates his tenacity of purpose in meeting difficulties. About seventeen years ago there was a kind of onslaught made by the foreign paper-maker on an entirely new class of paper termed kraft, made under what was then called a new process, viz., chemical wood pulp, but hitherto unknown to the British paper-maker, who was, up to that period, accustomed to manufacture what was termed stuff papers. The knowledge that Mr. Nuttall had gained in pulp matters during his extensive travels abroad fired him with the ambition to try to make pulp papers at his Horwich mills. After many long and weary experiments, he was rewarded by being able to put on the market a new wood pulp paper styled Kraft. Eventually the whole mill's production was turned on to this new product, so that to-day the firm is known as one of the representative English Kraft makers.

Whenever the history of modern methods of paper-making comes to be written, the names of such pioneers as Mr. T. Y. Nuttall, Mr. Jos. Turner, Mr. Jos. Dixon (Grimsby), Mr. Albert Reed, Mr. J. E. Jepson, J.P., and Lord Doverdale will have honoured places therein. The work they have done in the interests and development of the paper trade of this country must never be allowed to pass into oblivion. Their great aim was to benefit the British paper trade—to bring it into line with those foreign paper products which caused such a revolution in the trade nearly twenty years ago.

One word more. Notwithstanding Mr. Nuttall's busy life, he found time for even more. The deceased gentleman was a staunch supporter of the Belgrave Congregational Church, Darwen, and was also a Sunday School worker for over forty years, and a trustee of the Church.

THE INTERMENT.

The interment took place at the Darwen Cemetery at noon on July 24. A private service was held at the house, conducted by the Rev. W. Morgan, minister of Belgrave, and a personal friend of the deceased gentleman, who also officiated at the Cemetery.

The chief mourners were Mrs. Nuttall (widow), Capt. W. E. Nuttall (son), Mrs. W. E. Nuttall (daughter-in-law), Miss Florence Cecily Nuttall (daughter), and relatives of the family.

The coffin was borne by the oldest employees of Messrs. Cooke and Nuttall, Ltd., while representatives, manager and staff at the Horwich works and manager and staff from the Manchester offices, also attended.

About fifty of the employees of the Horwich mill journeyed to Darwen to pay their last tribute of respect, and the following heads of departments also attended: Messrs. D. S. Wallace (manager of Horwich mill), W. Taylor (secretary), Coulson (night foreman), G. Hutchinson, Jas. Hutchinson, A. Whalley, and J. Gunning.

The Manchester offices were represented by Messrs. F. Whalley (nephew of deceased and director), H. Hamlett, and A. Bramhall.

The paper trade was represented by Mr. C. R. Seddon, J.P. (East Lancs Paper Mill Co., Radcliffe), Mr. H. Brindle (Samlesbury Paper Mill), Mr. Jos. Chadwick (J. Chadwick and Sons, Ltd., Oldham), Mr. Eli Kirkham (Darwen Paper Mill), the pulp trade by Mr. T. Newlands (Messrs. J. E. Salvesen and Co., Ltd.), Mr. H. G. Willis (Messrs. Berner and Neilsen), and Mr. A. A. Neale (O. Reich and Co.). There were also representatives of the Town Council, borough and county magistrates, Belgrave Church officials, members of the Darwen Liberal Association, the local Literary Society, and others.

A large number of floral tributes were sent from members of the family, public bodies, etc.

The LATE MR. ALEXANDER DAVIDSON

It is with regret that we chronicle the death of Mr. Alexander Davidson, which took place on the 10th ult., at St. Bartholomew's Hospital, as the result of injuries received by being knocked down by a motor car in Queen Victoria Street, on the previous day. Born in 1842, the deceased gentleman had been connected with the business of Messrs. E. Davidson & Co., Ltd., Mulgimoss Paper Mills, Aberdeenshire, for over 60 years. The firm was established in the year 1790. Mr. Davidson was chairman of the company and was held in high esteem by all who knew him, not only for his excellent business qualities, but also for his genial and kindly disposition. Educated in Aberdeen, he took his degree of M.A. at the Aberdeen University at the early age of 18 years. In the golfing world he was widely known, and was ex-captain of the Royal Wimbledon Golf Club, and one of the founders and trustees of the Royal St. George Golf Club, Sandwich. He was during his younger days an enthusiastic and expert rifle shot, being a regular competitor at the National Association rifle meetings at Wimbledon in the 70's. Another of his pastimes was curling, when the season permitted, and he occupied the position of President of the Wimbledon Curling Club. The news of his sudden death aroused in the district of which he was a resident feelings of intense sorrow, as well as both inside and outside the paper world. The deceased gentleman is survived by three sons and a daughter. Mr. W. D. Davidson is a director of the firm, and is a resident in Aberdeen. Mr. Nigel G. Davidson is Advocate-General at Khartoum, and Mr. Alan Davidson, the third son, is in business in London. The funeral took place on the 14th ult. from the residence of the deceased, 1, Ridgeway Place, Wimbledon. A service was held at St. John the Baptist Church, and the interment followed at St. Mary's Churchyard, Wimbledon, and the impressive scenes were witnessed by a large number of people. The London office was closed during the sad proceedings and many members of the staff were thus able to pay their tribute to their late chief. There were a large number of floral tributes. Among those present were:—Mrs. Davidson (widow), Miss Davidson (daughter), Mr. W. D. Davidson (son), Mr. A. J. Davidson (son), Mrs. A. J. Davidson (daughter-in-law), Mr. C. W. Davidson (nephew), Miss Cockburn (niece), Mr. Frank Cockburn (nephew), Mr. Gerald Routledge (nephew), Mr. John Gordon (Messrs. John Gordon and Co., Ltd.), Sir Arthur Fell, M.P.; Mr. Steadman, and Mr. Henry Nairn (late chief clerk of the Southwark Police Court).

THOS. HARDMAN & SONS

LIMITED.

**FERNHILL MILLS,
Bury, LANCASHIRE.**

ESTABLISHED 1836.

London Office : FLEET HOUSE,
17 FARRINGDON AVENUE, E.C.

Telegrams { "Felta, Bury."
 "Unbend, London."

Telephones { No. 41 Bury.
 No. 62 Holborn

**FELTS FOR
FAST RUNNING
A SPECIALITY.**

ALSO MAKERS OF
EVERY DESCRIPTION OF
:: CLOTHS ::
Used for Machinery Purposes.

**COUCH ROLL COVERS,
SECOND PRESS FELTS,
WET AND DRY FELTS,
BAG FLANNELS, &c., &c.**

BLANKETS, LAPPINGS, &c., : : FOR PAPER STAINERS, : :
PRINTERS AND LITHOGRAPHERS.

THE LATE MR. HART NICHOLLS.

By the death of Mr. Hart Nicholls, senr., an interesting link with the early days of the Cornish China Clay industry has been severed. Mr. Nicholls, who was in his 80th year, had been unwell for some days, and was proceeding from his bedroom to another apartment early one morning recently when he mistook the door and fell downstairs. Mrs. Nicholls and the maid hastened to his aid and removed him to the dining room. Medical aid was immediately summoned, but life was found to be extinct. An enquiry was held at the residence of the deceased by the County Coroner without a jury. Death was stated to be due to concussion of the brain, and the Coroner recorded a verdict to that effect.

The late Mr. Nicholls was one of the pioneers of the China Clay trade and had been associated with various China Clay undertakings for a great many years. He was identified with the late Dr. R. F. Stephens in the formation of the Lower Lansalsen China Clay Co., and the Single Rose China Clay Co., and a director of the Hallirat China Clay Co., and was the chairman of the North Goonbarrow China Clay Co. Only a few days before his death he motored to Newquay to attend a directors' meeting, and it is surmised that he contracted a chill during the journey which laid him up. The honour of explaining the process of China Clay production to the King and Queen when they visited the Duchy some years ago befell the deceased gentleman. It was on the occasion when the Royal visitors made a halt at the North Goonbarrow China Clay Works, and as Chairman of the Company that duty devolved upon him.

The funeral, which took place at Treverlyn, was very largely represented. The mourners were Messrs. Hart Nicholls and W. T. Nicholls (sons), W. W. R. Nicholls (nephew), and W. Bullock (brother-in-law), and a considerable number of those associated with the China Clay industry attended, in addition to the employees at North Goonbarrow China Clay Works and the Hallirat China Clay Works.

SWEDISH CHAMBER OF COMMERCE.

ITS NEW HOME.

We have received a copy of the Swedish Chamber of Commerce Year Book (1919), which contains an interesting review of the Anglo-Sweden commercial relations during the past year. An excellent descriptive account is given of the Chamber's "New Home" in Trinity Square. The building is of triangular shape, and a considerable portion is available for letting; from this a substantial revenue is anticipated. The upper floors are reserved for the Chamber of Commerce. The second floor accommodates the office and administrative staff, while the third floor is for the use of members; the fourth floor contains the restaurant and kitchen rooms. The Council Chamber and Library is 45 ft. long by 22 ft. wide, and 13 ft. 4 ins. high, and the balconies command one of the finest prospects in London. The lounge hall offers generous space for rest, conversation and refreshment. The restaurant, with a floor space of fully 1,400 square feet, will accommodate from seventy to eighty guests, and being immediately under the roof, will be well lighted and ventilated, while the façades are constructed of Portland stone, with simple massive piers resting on a storey of deeply jointed blocks of masonry, crowned by a bold, dominant cornice. Every detail has been carefully studied, and the members have undoubtedly a "home" they rightly can feel proud

of. The Year Book also contains a number of Swedish trade reports, including the following:—

WOOD-PULP TRADE.

The year 1919 opened with shipping arrangements still in the hands of a Controller, and shipments were consequently restricted to some extent. However, all restrictions on imports were withdrawn at the end of March, and the trade naturally looked forward to a busy time.

For the following two months business was very brisk, so far as orders were concerned, but there was considerable delay in shipments coming forward, and this naturally hampered forward business. However, at the end of July, business revived and continued good up to the close of the year.

During the last three or four months of 1919 there was a very brisk demand for pulp of all descriptions, with prices always advancing. The year closed with the immediate future prospects in a very promising condition.

O.R.

THE PAPER TRADE.

The year 1919 was marked by greater extremes than almost any in the whole history of the paper trade.

It began with the same license restrictions as were prevalent during the closing months of 1918, and with the same apathy on the part of buyers which had been such a feature of the position ever since the conclusion of the Armistice. The demand was still further reduced, and all prices showed a weakening tendency.

Towards the close of March the statement was issued that all control would be removed by April 30. This further depressed the market, and met with a good deal of opposition from the English manufacturer. It was felt, too, both by paper-maker and importer alike, that a more gradual de-control would be advisable, and tend to more stable business. A Committee of Inquiry was formed, representing both manufacturer, wholesaler and consumer, and its findings ultimately resulted in a cancellation of the previous order, substituting a system of granting license to import, based on a percentage of purchases from British mills or mills in British Colonies.

This system would doubtless have worked well under the then existing conditions, but shortly after its inception there was a very evident sign of an awakening trade, with the result that ultimately it became clear that the British mills, with their after-war conditions of labour and machinery, were quite unable to cope with the increased flow of business, the result of this being that licenses to import were not obtainable in anything like sufficient number to satisfy the demand.

What at one time looked like becoming a serious paper famine was, however, relieved towards the middle of August by the welcome announcement that from the end of the month import would once more be free, subject to any alterations which might be made in an Anti-dumping Bill to be presented to Parliament in the late autumn.

This Bill has not yet materialised, and from that time up to the present the history of the trade has been one of ever-increasing costs and prices, coupled with an ever-increasing and unsatisfiable worldwide demand which shows no signs of falling off. The problems the manufacturer has to face to day, both in the way of Labour difficulties and augmented costs and the scarcity of raw materials are such as to point to a still firmer market for some long time to come, but, taken altogether, the year which opened under such depressing conditions must be said to have retrieved itself considerably. —J.E.

The will of Mr. Henry Mathew Stevenson, of Handsworth and Birmingham, paper merchant and transfer printer, has been proved at £33,183.

LENDRUM

LIMITED

Paper Agents and Merchants

HOME & EXPORT

**3 & 4 St. Paul's Churchyard
LONDON, E.C.4**

Telegrams: "Instalment" Cent. London.
„ Foreign " "Instalment" London.

Telephone:
Central 7101 & 7102.

MANCHESTER
15 Quay Street

Telephone: 818 Central, Manchester.
Telegrams: "Lenquay," Manchester.

GLASGOW
16 Falfield Street

Telephone: 1969 South, Glasgow.
Telegrams: "Lendrum," Glasgow.

Branch Offices:
MELBOURNE
YOKOHAMA

Agencies at:
Calcutta, Bombay, Madras,
Hong Kong, Shanghai,
New York.

IMPERIAL PRESS CONFERENCE.

NOTABLE CANADIAN TOUR.



ON the invitation of the Executive of the Empire Press Union, the PAPER-MAKER will be personally represented at the Imperial Press Conference to be held next month at Ottawa, Canada.

The first Imperial Press Conference took place in London in 1909, under the presidency of the late Lord Burnham, and one result of the Conference was the establishment of the Empire Press Union, of which representative and influential Union the Right Hon. Viscount Burnham is President; the Right Hon. Viscount Northcliffe, hon. treasurer, and Mr. Robert Donald, Chairman of Council.

Before the Union was constituted there was no representative body which could speak for the Newspaper Press of the British Empire, including the Overseas Dominions, the Empire of India, and the Crown Colonies. There was no machinery available by which their interests could be safeguarded, their facilities increased, or their influence consolidated.

It was intended to have the second Imperial Press Conference in Canada in 1915, but that was made impossible by the war. The Canadian Press, under the chairmanship of Lord Atholstan, sent, however, an invitation to hold the conference in Canada during the summer of this year, and requested the Empire Press Union to arrange for the selection of delegates to represent the Press of the Empire.

It is proposed to continue the work of 1909 by means of conferences where the common aims and interests of the Press will be discussed from every point of view. The paper problem is one of the subjects on the agenda, and incidentally the delegates will see something of paper and pulp production during their comprehensive tour.

It is proposed by the Canadian Committee, with the active support of the Great Railroad Corporations, to take the delegates (whose wives are also invited) on an extended tour through Canada, under the auspices of the Canadian Government.

During most of the tour the party will be housed in two special trains of standard sleepers and compartment cars. At Quebec, Montreal, Ottawa, Toronto, Winnipeg, Calgary, Vancouver, Victoria and Edmonton accommodation has been reserved at hotels, and the party will be accompanied throughout by a train manager and an executive member of the railway company or the Government.

Mr. Robert Donald has written a short history of the first "Parliament of the Press," which, as already mentioned, met in London in 1909, and of the work accomplished by the Empire Press Union, which was established to carry on its mission. The first conference was held at a critical juncture in European affairs, when the shadow of war seemed already to be creeping over the world, and Mr. Donald aptly recalls the strikingly prophetic speeches made to the conference by some of our foremost statesmen, and how completely their confidence in the strength and unity of the Empire has been vindicated by the events of the last six years. Upon the overseas editors these utterances produced strong impressions, and from their visit they carried back a new outlook on Empire affairs. "A new trend was given to public opinion in the Dominions. The ties of unity were more solidly knit together; the Empire was made better able to resist the shock of war when it came."

Mr. Donald considers that the practical work of the conference was no less valuable, and the results of its efforts, continued and extended by the Union, are visible to-day in the improved facilities for the inter-changes between the different parts of the Empire, of news and information concerning the manifold activities of each part

of the King's Dominions. From the second conference equally important results may be confidently anticipated.

"The editors," says Mr. Donald, "will not confine their attention to their own professional interests. They will give statesmen a lead in the solution of new and trying problems which now confront them. The war has created new perspectives; it has broadened democracy; it has given a new status to the self-governing Dominions which have now entered world politics. The supreme council of editors are in a position to interpret the wishes, the hopes, the aspirations of millions of citizens. They are able to give a lead to statesmen and guide public opinion wisely on all the vital problems affecting the progress and welfare of the British peoples, however far apart they may be, or under whatever form of government they may live."

On July 20 the London delegates, the majority of whom were accompanied by their wives, left Euston by special L.N.W. Railway train for Liverpool and there embarked on the *Pictorian* (C.P.O.S.), and travellers accustomed to crossing the Atlantic know that in the hands of the Canadian Pacific Ocean Services, Ltd., their comfort and interests are safe.

The following are the appointed Delegates:

UNITED KINGDOM.

Viscount Burnham (President of the Empire Press Union and Chairman of the Delegation), Mr. Robert Donald (Chairman of the Union), Sir Harry Brittain, M.P. (Chairman of the Arrangements Committee), R. A. Anderson (*The Irish Homestead*), Lord Apsley (*The Morning Post*), Miss M. F. Billington (The Society of Women Journalists), Sir Robert Bruce, LL.D. (*The Glasgow Herald*), Mr. H. T. Cadbury (*The Daily News*), Sir Emsley Carr (*The News of the World*), Mr. J. T. Clayton (President of the Yorkshire Newspaper Society), Mr. D. Davies (*The South Wales Daily Post*), Mr. W. Davies (*The Western Mail*), Sir Howard d'Egville (The Empire Parliamentary Association), Mr. J. C. Glendinning (*The Derry Standard*), Mr. J. D. Graham (*The Express and Star*, Wolverhampton), Mr. J. L. Greaves (*The Paper-Maker*), Mr. Harold Harmsworth (*The Western Morning News*), Mr. James Henderson (*The Belfast News Letter*), Col. Sir Arthur Holbrook, M.P. (*The Portsmouth Times*), Mr. P. J. Hooper (*The Freeman's Journal*), Mr. L. Howarth (*The Yorkshire Post*), Mr. Percy Hurd, M.P. (*The Montreal Star and Canadian Gazette*), Mr. Geo. A. Isaacs (National Society of Operative Printers and Assistants), Sir Roderick Jones (Reuter's), Mr. Valentine Knapp (President of the Newspaper Society), Mr. C. D. Leung (*The Sheffield Telegraph*), Mr. J. Lumsden (*Daily Mirror and Leeds Mercury*), Mr. J. S. MacDonald (*The Farmer and Stockbreeder*), Mr. T. B. MacLachlin (*The Scotsman*), Mr. Percival Marshall (Chairman of The British Association of Trade and Technical Journals), Mr. W. Maxwell (*The Aberdeen Daily Journal*), Mr. John Mitchell, J.P. (*The Dundee Courier*), Mr. J. B. Morrell (*The Birmingham Gazette*), Mr. T. E. Naylor (Printing and Kindred Trades Federation), Sir Frank Newnes, Bart.; Right Hon. Sir Gilbert Parker, Bart.; Dr. Ellis T. Powell (*The Financial News*), Mr. F. Crosbie Coles (Hon. Secretary of the Empire Press Union), Mr. Alfred Sprigg (*The Leicester Mail*, Vice-President of the Newspaper Society), Sir Charles Starmer (*The Northern Daily Echo*), Sir Campbell Stuart (*The Times*, *Daily Mail*, *Evening News*, and *Weekly Dispatch*), Mr. L. Goodeough Taylor (*The Bristol Times and Mirror*), Sir George Tomlin (*Lancashire Daily Post*), Mr. H. E. Turner (Secretary the Empire Press Union), Col. Ed. W. Watt (*The Aberdeen Free Press*), Mr. E. W. Woodhead (*The Hudders-*

field Examiner), Mr. J. D. Williams (*Cambria Daily Leader*, Swansea), Mr. J. Hayes (*Glasgow Record and Mail*), and Mr. D. W. Vickley (*Leeds Mercury and Daily Mirror*).

DELEGATION FROM THE OVERSEAS PRESS.

AUSTRALIA:—Mr. D. Braham (*Sydney Daily Telegraph*), Mr. W. Brennan (*Melbourne Argus*), Hon. C. E. Davis, M.L.C. (*Hobart Mercury*), Mr. Hugh R. Denison (*The Sun*, Sydney), Mr. G. E. Fairfax (*Sydney Morning Herald*, Chairman of Australian Section of the Union), Mr. Taylor Darbyshire (*Melbourne Age*), Hon. Theodore Fink (*Melbourne Herald*), Mr. Walter Jeffery (*Sydney Evening News*), Hon. J. Kirwan (*Kalgoorlie Miner*), Mr. J. Knight (*Brisbane Courier*), Mr. A. Langer (*West Australian*), Major Lansell (*Bendigo Advertiser*), Mr. A. Lovekin (*Perth Daily News*), Mr. N. White (*Brisbane Daily Mail*).

NEW ZEALAND:—Mr. H. Horton (*New Zealand Herald*), Mr. J. Hutchison (*Otago Daily Times*), Mr. E. Abbey Jones (*Southland Daily Times*), Mr. T. W. Leys (*Auckland Star*), Mr. J. Parker (*Wellington Post*), Mr. W. Penn (*Taranaki Herald*), Mr. P. Selig (*Christchurch Daily Press*, Chairman of the Newspaper Proprietors' Association of New Zealand).

SOUTH AFRICA:—R. Allister (*Cape Times*), Mr. P. Davis (*Natal Witness*), Mr. B. H. Dodd (*East London Daily Dispatch*), Mr. C. D. Don (*Johannesburg Star*), Mr. R. S. Ward Jackson (*Rand Daily Mail*), Mr. N. Levi (*De Volksstem*, Pretoria), Mr. D. M. Ollemans (*The Fricad*, Bloemfontein), Mr. N. K. Kerney (London Manager of *Cape Argus*, etc.).

INDIA:—Mr. A. J. Fraser Blair (*The Statesman*), Mr. J. Nolan (*Rangoon Times*), Mr. J. O. B. Saunders (*The Englishman*), Mr. J. P. Collins (*Civil and Military Gazette*).

REPRESENTING THE INDIAN-OWNED PRESS: Mr. Chintamani (*The Leader*, Allahabad).

NEWFOUNDLAND: Sir Patrick McGrath (*St. John's Evening Herald*), Hon. Alexander W. Mews (*St. John's Evening Advocate*), Dr. G. R. Mosdell (*St. John's Daily Star*).

WEST INDIES:—Mr. H. G. Delisser (*The Daily Gleaner*, Kingston).

CEYLON:—Mr. Rosbie Roles (*Times of Ceylon*).

EGYPT:—R. Smelling (*Egyptian Gazette*, Alexandria).

STRAITS SETTLEMENTS: Mr. Walter Makepeace (*Singapore Free Press*).

FAR EAST:—Mr. H. A. Cartwright (*Hong Kong Daily Press*).

MALTA: Mr. A. Bartolo (*Daily Malta Chronicle*).

NEW ISSUES.

THE IMPERIAL PAPER MILLS, LTD.

The Imperial Paper Mill has just issued £800,000 7½ per cent. guaranteed fifteen-year first mortgage debenture stock at 98 per cent., guaranteed both as to principal and interest by the Amalgamated Press, Ltd. The mills of the company are situated at Gravesend, on the river Thames, with a frontage of 1,200 ft. to the river, and have their own wharves, piers and every modern facility for loading from and to craft on the river. There are two mills, one of which is concentrated on the manufacture of paper used in the production of daily papers, and the other mill is used for the manufacture of paper for the production of magazines and periodicals. The company has recently, jointly with Viscount Rothermere, and companies with which he is associated, purchased the whole of the capital stock of the pulp mills carried on by the Gulf Pulp and Paper Company at Clarke City, in the province of Quebec, on the river St. Lawrence, together with timber limits extending to 625,000 acres. This pulp mill at present produces an output of approximately 25,000 tons of pulp per annum. Under the arrangement

for purchase, the company will acquire two-thirds of the capital. The remaining one-third is being acquired by others interested in the purchase of paper. The supply of pulp thus secured will safeguard the supply of that commodity requisite in the manufacturing operations of the company, and a large saving in costs will result. The issue has been made to provide the capital necessary to carry out the above programme and to enable the company to acquire further timber limits, and to provide additional working capital in the business. It should be mentioned that this is the first debenture stock issued by the company, who has undertaken not to issue during the currency of this stock any more debentures charged upon its undertaking. The list closed on the 23rd ult.

AMALGAMATED PAPER MILLS, LTD.—The prospectus has appeared of the Amalgamated Paper Mills, Ltd., which company has been formed for the purpose of acquiring the businesses of Edward Collins & Sons, Ltd., Kelvindale, Maryhill, Glasgow, and Henry & Leigh Slater, Ltd., Harter Street, Manchester, and Lower Mills, Bollington, near Macclesfield, as going concerns. These two businesses are amongst the oldest established paper mills in the country, that of Edward Collins & Sons, Ltd., having been established in 1746, and Henry & Leigh Slater, Ltd., in 1865. The company will have the assets in land, buildings, fixed plant, stocks, &c., the value of which has been certified as £900,575, and, although the two businesses can show a combined record of well over two centuries, no amount is included for goodwill. The capital of the company is £900,000, divided into 300,000 8 per cent. cumulative participating preference shares of £1 each, and 500,000 ordinary shares of £1 each, the whole of which will be offered for subscription at par. The cumulative preference shares will be entitled to a further 25 per cent. of the undivided profits, after 8 per cent. has been paid on the ordinary, and applicants will have the right to an allotment of four ordinary shares for every five preference applied for.

SIR LOMER GOUIN ON THE QUEBEC PULPWOOD EMBARGO.

The Montreal correspondent of the *Paper Trade Journal* states that Sir Lomer Gouin, Premier of the Province of Quebec, in a speech in Montreal, made a reference to the threats of retaliation from the United States in the matter of the pulpwood embargo, and announced in emphatic terms that notwithstanding these threats, the embargo on pulpwood would be maintained in the Province of Quebec. At the same time, he said, the Government would do all in its power to aid water power development and expansion of the pulp and paper industry. His reference to the question of embargo was as follows:—"As for our forests," said he, "there are 15,000,000 acres under licence and 60 million acres under government proprietorship." Americans looked with envy at that wealth and they would like to give them what they called the big stick. Since 1910 the Government had prohibited the exportation of pulpwood and they saw the happy results that day. "Good charity begins at home;" that is what they had practised for ten years and proposed to practise it in the future.

Referring to water power, he said that in the British Empire there was water power to the extent of 30,000,000 horse-power, of which Canada possessed 23,000,000, seven million of it being contributed by Quebec. Already 880,000 horse-power was developed by private industry. They encouraged private industry, confident that it was the best way to increase development with the least expense for the province. The two most important sources of water power established in the provinces were those of the St. Maurice and St. Francois rivers. The Government had spent considerable sums in their development, but looked forward to getting that back with interest at the rate of 10, 15 and even 20 per cent. The province had at present \$125,000,000 invested in water power.

THE CORNISH CHINA CLAY INDUSTRY.

FROM OUR ST. AUSTELL CORRESPONDENT.

The Cornish China Clay industry has fairly maintained its activity. There appears to have been an enormous demand for the Cornish clay from the American markets, and orders for large quantities have been booked up for some time to come. The inadequate loading facilities at Fowey are still responsible for handicapping the industry, and during the past month steamers have been obliged to leave without any cargo or take smaller consignments than was intended. The China Clay producers, we understand, are making strong protests to the Ministry of Transport on the lack of railway trucks and the apathetic endeavours on the part of the Great Western Railway authorities to effect the improvements promised at Fowey, including the completion of the new jetty and other much needed concessions.

Considerable interest was evinced in the sale of a large number of £1 shares in the English China Clays, Ltd., at St. Austell on June 25. Amongst the purchasers were Messrs. Parkyn & Peters, China Clay Merchants, of St. Austell, and those associated with the English China Clays, Ltd.

Mr. R. R. French, son-in-law of the late Mr. John Knight, of the Papermakers' Chemical Co., has just returned from a brief visit to the States, occasioned by his father-in-law's death. Mr. and Mrs. French have received the condolences of the whole industry in their bereavement.

Heartly congratulations to Mr. and Mrs. W. T. Lovering and to Mr. Reg. Lovering, their only son, on the latter's recovery from a very serious operation occasioned by the severe injuries received on active service in France just before the armistice.

Mr. C. S. Varcoe, the principal of the firm of Messrs. William Varcoe & Sons, Ltd., of St. Austell, has not been in his usual good health for the last few months, but is now rapidly returning to his usual vigour, after a period of rest and change at Newquay.

I learnt from Mr. Varcoe that business all over the world was exceedingly brisk and if only shipping could be accelerated and transport generally improved, their pre-war activity would soon be restored. The firm's principal clay-works—Wheal Bannallick and Wheal Retallick—are being exploited to their utmost and extended rights have been secured for further development. Additional grinding mills by water and also dry grinding processes have been added to the company's operations and equipped in modern style in order to keep pace with the great demands of the home, continental and foreign markets. Mr. George M. Johnson, who was recently appointed a member of the directorate, is not only proving an asset to the business with which he has been associated for 20 years, but of great personal assistance to the principal. Mr. C. Stuart Varcoe, in the administrative department. The firm have re-opened their office at 13, Rue de la Madeleine, Brussels, which was fortunately left quite intact from any damage from the Germans, and is in charge of Mr. R. J. Beech, formerly of the Head Office at St. Austell. Here, Mr. Varcoe informs me, the continental markets are showing signs of marked activity. The head offices at St. Austell which were formerly used jointly by a branch of Lloyds' Bank and which form one of the most commodious and finest architectural buildings in the town, has been taken over entirely by this firm and arrangements are proceeding for its purchase.

Mr. C. S. Varcoe, the principal of the firm of Messrs. William Varcoe & Sons, Ltd., of St. Austell, has not been in his usual good health for the last few months, but is now rapidly returning to his usual vigour, after a period of rest and change at Newquay.

NEW COMPANY REGISTRATIONS.

The USK PAPER MILLS has been registered with a capital of £30,000 (£1) (10,000 "A" preference, 10,000 "B" preference, and 10,000 ordinary). To take over the business of a paper manufacturer and paper bag manufacturer carried on by A. J. Howell at Crickhowell, Brecon, as the Usk Paper Mill. Private.

The "GLOBE" NEWSPAPER CO., LTD., has been registered with a capital of £50,000 in £1 shares. To carry on the business of newspaper, magazine, periodical and general publishers, etc. The subscribers (each with one share) are: H. Duncan Smith, 11, Finsbury Park Road, N.4; G. W. Waspe, 325, Hertford Road, Waltham Cross. The subscribers are to appoint the first directors. Qualification, £100. Remuneration, £200 each per annum. Secretary: D. Duncan Smith. Solicitors: J. D. Langton and Passmore, 6, Austin Friars, E.C. Registered Office: 367, Strand, W.C.

THE ASSOCIATED BELTING COMPANIES, LTD., has been registered with a capital of £350,000, in £1 shares, to carry on the business of woven hair and cotton machine belting and canvas fire hose manufacturers and merchants, engineers, weavers, spinners, doublers, twistors, machine and hand belt makers, curriers, tanners, mill furnishers, etc. The first directors are: F. W. Alexander, Grange Mills, Cardiff; G. F. Forsdike, 130, Bute Street, Cardiff; C. P. Hailey, Baltic House, Cardiff; T. C. Graham, 40, Palace Road, Llandaf, Glamorgan. Minimum cash subscription, seven shares.

The "DAILY MIRROR" NEWSPAPERS, LTD., was registered on June 29, with a capital of £1,500,000 in £1 shares (800,000 preferred), to carry on the business of newspaper proprietors and general publishers, etc., and to adopt an agreement with the Pictorial Newspaper Company (1910), Limited, and W. Lima and W. D. Roome the liquidators thereof: The subscribers (each with one ordinary share) are:—J. Cowley, 10, Dovovan Avenue, Muswell, Hill, N.10; A. Campbell, 15, Whitehall Gardens, Acton, W.; W. D. Roome, 58, West Heath Drive, N.W.3; J. G. Lovell, 29, Barmead Road, Beckenham; F. W. Brading, 9, Redmead Road, Harlington; W. Mears, 57, Belmont Road, Ilford; A. S. Fuller, 15, Amhurst Road, Ealing, W. Minimum cash subscription seven shares. The first directors are to be appointed by the subscribers. Registered office: 23-29, Bonverie Street, E.C.

OLIVE'S PAPER MILL COMPANY, LTD., has been registered with a capital of £200,000, in £1 shares. To carry on the business of paper and pulp manufacturers, merchants and agents, paper mill owners, etc., to acquire the business and assets of Olive Brothers, Limited, and to adopt agreements with the said company, A. Kay and H. Spalding. Minimum cash subscription, seven shares. The first directors are: Sir Robert W. Carlyle, K.C.S.I. (chairman), 51, South Street, Mayfair, W. (director Paripan, Limited); A. Kay (managing director), The Elms, Tootington Road, Woolfold, Bury; H. Spalding, Redholme, College Road, Dulwich, S.E.21; C. Baker, Westcourt, Stormont Road, Highgate, N.; H. Smith, Lilyvale, Clifton Avenue, West Hartlepool; C. H. Jenkinson, 37, Swaine Street, Bradford; Colonel E. Simpson, V.D., J.P., 14, Abercromby Place, Stirling, N.B. So long as £100,000 of an issue of £150,000 under a certain indenture shall be outstanding the trustees thereof may appoint a director. Qualification (except such director as above), £1,000. Remuneration, £150 each per annum (chairman £200). Registered office: Woolfold Paper Mills, Woolfold, Bury.

GENERAL AND FOREIGN NEWS.

IN a report published on the economic conditions of Roumania, it states that the sum of 14,165,000 reis is invested in the cellulose and paper industry.

DURING the fiscal year ending March 31, 1920, Canada imported 4,757 cwts. of wood pulp and bleached sulphite into Italy, amounting in value to \$27,387.

Owing to the high cost of paper the *Echo de la Mayenne*, a French provincial newspaper, which was founded in 1812, has been obliged to cease publication.

THE imports of paper, cardboard and goods manufactured thereof into Germany in January of last year amounted to 1,068,283 Doppelzentners 22½ lbs. The exports were 360,622 Doppelzentners.

THE exemption from Italian Customs import duty accorded in October last to white paper, in rolls, for newspapers, has been continued in force until August 31, 1920, by an Italian Royal Decree, dated June 5.

IN all business with Turkey since the war, cash terms have been generally insisted upon. As a rule, American and British firms require 25 per cent. cash with the order, and the balance on delivery. Italian and French firms are more accommodating.

IN announcing the decision by the owners to close 30 paper mills in the Fuji district of Shizuoka-ken, the *Japan Advertiser* quotes the owners as claiming that the slump had wiped out very nearly all of the \$500,000,000 profit made during the last five years.

OWING to the difficulty in obtaining passages in the autumn to India, it is suggested that British business men intending to visit India in connection with British trade should apply at once to the Department of Overseas Trade if they are encountering any difficulty elsewhere.

THE exportation of the following timbers from Sweden is prohibited by a Royal Order dated June 22: Ships' timber, mast wood and spars, and other unwrought pine and fir lumber (except telegraph poles, pit props, and pulp wood), and unwrought lumber of other native woods, even in blocks.

REPORTING on the commercial situation in Siam, Mr. J. H. Crosby, H.M. Acting Consul-General, Bangkok, states that paper (chiefly unprinted) to the value of £31,186 was imported into the country during the year ending March 31, 1920. However, during the years 1918-1919 the value of paper imports amounted to £168,866.

A FRENCH Presidential Decree issued on the 10th ult., prohibits the importation into France and Algeria, under a Customs régime, of newsprint paper and paper pulp, originating in or coming from foreign countries as follows:—Paper (other than any fancy paper), machine made, weighing more than 30 grammes per square metre, for printing newspapers, mechanical and chemical cellulose pulp destined for the manufacture of such paper.

A ROYAL DECREE has been issued which fixes the maximum price for newspapers in Spain at 10 centimos from June 16. In the event the cost of newsprint paper becomes more than 160 pesetas for 100 kilograms the price will go to 15 centimos. Provision for further increase should the price of print paper warrant it is made. Maximum prices for insertion of advertisements have also been fixed, varying for city and country newspapers.

PULP CONDITIONS IN SCANDINAVIA.

VIEWS OF MR. L. E. RUSTAD.

MR. L. E. RUSTAD, a director of the firm of Messrs. Johnsen, Jørgensen & Wettre, Ltd., has recently returned from a visit to Scandinavia, and when a representative from THE PAPER-MAKER called upon him a few days ago, he was able to elicit some particulars with reference to the conditions prevailing in the pulp trade in Norway and Sweden.

"There is no lack of timber," said Mr. Rustad, "although prices continue to be very high, caused chiefly by the keen demand for this commodity. Every attention is given to re-afforestation, and, consequently, a perpetual supply is available."

In reply to an enquiry as to the market conditions in Scandinavia, Mr. Rustad said: "The majority of mills, both chemical and mechanical, are well sold both for this and next year; in fact, for the present year there is very little pulp unsold, and for next year the quantities so far sold have been disposed of at very satisfactory prices. The chemical mills, in particular, are short of stocks, several having nothing at all, and are, therefore, behind in their deliveries."

"At the present time," said Mr. Rustad, "the Scandinavian mills are beset with many difficulties in regard to manufacturing. Not only is the labour question very serious, but the cost of all raw materials is constantly increasing. Labour unrest is keener in Norway than in Sweden at present, as, in the former country, in spite of the high wages now being paid, further demands are expected. Conditions in Sweden are not so unsettled, and the manufacturers there are more optimistic."

"The fuel question is an embarrassing one for the mill proprietors in both countries. Coal is only obtainable in small quantities, and at exorbitant prices. Norway is now importing coal from the United States."

Mr. Rustad ascertained, whilst in Scandinavia, that the mills there had received several enquiries recently from the United States, both for chemical and mechanical pulp, and told our representative that some contracts had been closed. He also added that he thinks there is no likelihood of prices falling for the time; on the contrary, f.o.b. prices are steadily rising. There is always a lull in business just at this period of the year, but a general review does not lead one to anticipate any fall in the price of either pulp or paper. Reduced freights and the favourable exchange may account for the former being slightly easier at the moment.

To mark the departure of Mr. C. E. Willis, of Lendrums, Ltd., as manager of the firm's office at Yokohama, Japan, a banquet was held at the Piccadilly Hotel on the 27th ult. Among those present were Mr. Lendrum (chairman), Mr. E. H. Raynham, Mr. C. Willis, sen., Mr. Johnson, Mr. Edwards, Mr. T. Carson (all of Ed. Lloyd, Ltd.), including about 30 members of the staff. The toast of "The King" having been duly observed, the Chairman (Mr. Lendrum) proceeded to propose the health of Mr. C. E. Willis and wished him a safe and speedy journey to his new sphere of operations. Mr. Willis, replying, thanked all present for their good wishes, and said that the event would live for many a long day in his memory. Mr. E. H. Raynham, Mr. Johnson, Mr. Carson and Mr. Willis (sen.), also spoke, and an excellent musical programme was rendered by a number of talented artists. A word of praise is due to Mr. A. P. Jackson for the admirable manner in which he made the arrangements for such a successful evening. An extended report will appear in our next issue.

A warehouse in Moir Street, Govan, Glasgow, belonging to Messrs. Jebb Brothers, paper stock merchants, was burnt down on the night of the 26th ult.

MRS. HERBERT PARTINGTON, J.P.

MAYOR OF GLOSSOP THREE-AND-A-HALF YEARS.

A DISTINGUISHED CAREER.

On the 9th of November of last year, Mrs. Mary A. Partington, J.P., of Talbot House, Glossop (daughter-in-law of the Right Hon. Lord Doverdale), decided to retire from the position of Mayor of Glossop (Derbyshire), a position she had held with honour and distinction for three and a half years. Mrs. Partington accepted the office of Mayor after the lamented death of her husband, the late Mr. Councillor Herbert Partington, J.P., the eldest son of Lord Doverdale, who died after only a few days' illness on May 5, 1916, while holding office as Mayor of Glossop for a third term. It was at the urgent and unanimous request of the members of the Council that Mrs. Partington accepted the office as Mayor, the duties of which had been carried out so efficiently and zealously by her husband, who was universally beloved by the inhabitants of the borough and surrounding districts, irrespective of race, politics or creed. And what applied to the late Mr. Partington, applies with equal force, fully and without reservation, to Mrs. Partington during the whole period of her municipal office. It may be added that in taking up the Mayoralty, Mrs. Partington not only acquiesced in the unanimous invitation of the Town Council, but she received the heartiest approval of the members of her family, including Lord Doverdale, who, despite his advanced years, supported her throughout her long tenure of office, and even accompanied her when making her various State visits to the Parish Church, or fulfilling other special public and civic functions appertaining to the Mayoralty.

Mr. and Mrs. Herbert Partington, therefore, occupied the Mayoral Chair from 1913 to 1919, which more than covered the whole period of the Great War. Their whole tenure of office covered undoubtedly an unprecedented period of stress and activity in the country, but they proved themselves more than equal to the abnormal demands made upon them during those strenuous and historic years.

The official duties of a mayor in this country are sufficiently onerous in themselves in normal times, but during the period of the great war they were simply colossal and bewildering in number and variety of duties and activities.

It may be better imagined than described, the amount of self-sacrifice entailed when Mrs. Partington consented to take up the office of Mayor at a time when naturally one would prefer to live for a certain period in strict retirement

while suffering from severe and unexpected bereavement. However, Mrs. Partington put aside personal feelings and braced herself up to carry on the duties performed so ably and efficiently by her husband, and she succeeded in her efforts in a remarkable degree. So much so, that she was prevailed upon to accept office for a second and then a third term, the duties of which were carried out to the complete satisfaction of every section of the community. No duty was shirked or delegated to others. Moreover, her conduct in the Chair, whether at Council or Committee meetings, or elsewhere proved to evidence her thorough grasp of business routine in all its details. This was particularly shown in her striking review of municipal work and public and charitable enterprises at the close of each municipal year. It has often been remarked that if those members of our wealthy and leisured families who suffer from what is euphemistically called ennui, would only take a leaf out of Mrs. Partington's book, in regard to public life and activities, they would be benefitting themselves and Society generally. There



[Photo]

MRS. HERBERT PARTINGTON, J.P., [J. Russell
EX-MAYOR OF GLOSSOP.

would be fewer scandals, less idle and mischievous gossip, fewer divorces, etc., while what are known as social parasites would largely, if not altogether, disappear.

But to return. In recognition of her public work, Mrs. Partington's name appeared in the first list of lady Justices of the Peace, and she took her seat on the Magistrates' Bench for the first time on May 17 last. For her war work Mrs. Partington has received official recognition, including the O.B.E., also certificates of recognition in connection with War Savings, British Red Cross Work, child welfare work, blind civilians, blind soldiers and sailors, prisoners of war, etc. It should be added here that the total amount of money raised in the Borough during the war for various purposes was no less a sum than £1,097,726 16s. 11d., i.e., a sum equivalent to £52 per head of the population, a figure we do not hesitate to say

which is quite unique in the history of the period in the whole of the country. In addition to all this work, Mrs. Partington has been a lady guardian of the poor since May 16, 1902, and also president of the Ladies' Association of the Unitarian Church, in connection with which a handsome memorial stained-glass window was recently unveiled to the memory of her husband, the subject depicted being "The Good Samaritan."

Mrs. Partington has recently been appointed vice-president of the Glossop Division of the British Red Cross Society by the president of the Cheshire Branch (The Marchioness of Cholmondeley), in succession to the Hon. Muriel J. Howard, of Glossop Hall. It is also interesting to note that Mrs. Partington was the other day appointed a county magistrate for Derbyshire.

During her Mayoralty, Mrs. Partington organised many charities, concerts and other public gatherings in behalf of our soldiers and sailors, and also for the wounded and blind in the war. Christmas gifts to our heroes at home and abroad and at the war front were provided and distributed broadcast. Indeed, nothing seems to have been omitted by the lady Mayor of Glossop during the prolonged war and throughout her terms of office. In connection with the local War Memorial Funds, Mrs. Partington is chairman of the working committee, who are arranging two memorials—one at Glossop and a second one at Hadfield, while an effort is being made to raise £5,000 or £6,000 for scholarships for soldiers' and sailors' children. The committee were arranging, during the writer's visit to Glossop, for a big effort in June for the collection of funds for the above object, in the form of a "Flower Day," etc., which I have since learned was an unqualified success.

On the occasion of the peace celebrations at Glossop, Mrs. Partington was invited by the Corporation to plant an oak in the public Park, and was presented with a handsome silver spade, mounted on ebony, bearing the following inscription:—"Presented by the Aldermen and Burgesses to the Worshipful the Mayor, Mrs. M. A. Partington, on the occasion of the planting of a tree in the Park, to commemorate the signing of the Treaty of Peace in the Great War, July 19, 1919."

Mrs. Partington, by-the-way, has a family of two daughters, aged respectively fifteen and fourteen. It only remains to add that Mrs. Partington is an excellent, fluent speaker at public meetings and on other occasions, her addresses being always remarkable for clearness, directness, and practical common sense, so that she can always command serious and respectful attention.

Up to quite recently the Borough arms were those of Lord Howard of Glossop, whose principal residence is situated in the Borough and who formerly owned the Town Hall. When the latter was purchased from Lord Howard and presented to the town, a new crest was designed. The following is a description of the new crest:—"In the centre of the crest is the red rose of Lancashire, the town being, according to Lewis's Topographical Dictionary, in the Honour of Tutbury, which is part of the Duchy of Lancaster. The three Cross Crosslets are from the Arms of the Dukes of Norfolk, who were formerly Lords of the Manor, and of whose family the present Lords of the Manor are a branch. The Mural Crown is symbolical of an incorporated town or borough. The colour of the Crosslets and Crown is red. The background of the Crest is white. The legend on the scroll underneath is: Virtus, Veritas, Libertas."

We have received an interesting catalogue from Messrs. Cole, Marchant & Morley, Ltd., Bradford, Yorks, in which they lucidly demonstrate that by installing a C. M. & M. Central Exhaust or Heat Attraction Steam Engine, the consumption of coal can be materially reduced. To those who are anxious to reduce their coal bill we would commend this catalogue which will be supplied on request.

PAPER-MAKING IN IRELAND.

SHORTAGE OF COAL LIKELY TO CLOSE THE MILLS.

IN a recent review of the Irish Paper Industry, the *Statist* contains some interesting facts concerning the making of paper in this country. Over half a century ago Ireland, especially the southern part of the country, possessed a large number of paper mills. These mills, operated for the most part by small water-powers, had a very limited output, and their disappearance is not in any way indicative of a decline in the importance of the industry. Modern conditions, calling for a new policy, led to the replacement of these numerous small concerns by larger-sized mills, containing several paper-making machines, and so situated as to command good water, cheap coal, and suitable railway accommodation. Expansion of output was thereby secured, and a more than proportionate reduction was secured in working expenses.

The most important mills are situated in the vicinity of Dublin and Belfast. Excluding other circumstances, a weighty factor in the determination of the sites of these mills was the abundance and purity of the water-supply and the freedom from smoke or impure atmosphere. For the existence of this pure water supply Irish paper, in no small degree, owes its excellent reputation. In a census of Production taken in 1907, it was reported that the Irish Paper Trade amounted in value to £187,000, compared with £13,621,000 for the United Kingdom. As regards the actual production of paper, no details corresponding exactly to the above order can be given, but the total quantity of paper and board made in the United Kingdom in the census year was estimated at 850,000 tons. A more recent pre-war estimate made by the Papermakers' Association increases this to 1,092,000 tons, or 28 per cent., and there is little doubt that Ireland shows up substantially in this increase, as the position of the industry therein was very much strengthened after 1907. This is reflected in the particulars relating to the export trade, carried on mainly with Great Britain; in 1912 the value of the 335,891 cwt. of paper, stationery, and millboards exported was reckoned at £270,105.

It is, of course, the main object of the papermaker to procure adequate portions of pulp at reasonable rates. This situation is sufficiently embarrassing, but that of the Irish paper-maker is still more so. Shortage of wood pulp constitutes a serious disability, but shortage of coal is, if anything, the worse of the two evils. In normal times it was reckoned that a ton of coal was required to produce a ton of paper of moderate quality from pulp, but the point is only of academic interest to the individual who possesses the pulp but is deficient as to coal. At present uncertainty colours the whole outlook of the Irish maker so far as coal supply is concerned. The provision in hand is barely sufficient to last him a week, and the possibility of being forced to close down his mill is always too near to be pleasant. In the interest of Irish manufacturing industries generally, it is highly desirable that means should be found to alleviate the present situation, otherwise the activities are likely to be suspended at any time. If, to encourage the import of wood pulp from foreign countries, it is thought expedient to increase the quantity of coal exported to these areas, a similar boon should be extended to Ireland in order to stimulate its paper production.

As a supplement to wood pulp and other materials, waste paper has been largely utilised by Irish manufacturers during the past few years. Needless to say, the repulping of old paper has not many attractions, as the collection, sorting, and preparation involved render its treatment an expensive one. As a means of making up for the deficiency of wood pulp it has advantages, but is not likely to be continued when normal conditions prevail.

EDWARD LLOYD, LIMITED.

Increased Production and Improved Results. Capitalisation of Reserves.

The Thirtieth Ordinary General Meeting of Edward Lloyd, Limited, was held on the 27th ult., at the Head Office of the Company, 4-7, Salisbury Court, Fleet Street, E.C., Mr. Frank Lloyd (Chairman and Governing Director of the Company) presiding.

The Secretary (Mr. Robert B. Miller) having read the notice convening the meeting and the report of the auditors.

The Chairman, in moving the adoption of the report and accounts, said :—

You will have seen in the Report, which has been in your hands for some days, that the profits for the year show an increase of £45,091 18s. 7d., as compared with 1918, after making provision for income tax, hitherto included in Company expenses.

Your Directors congratulate you on the improved results and recommend a dividend of 13½ per cent. on the Ordinary Shares, carrying forward £130,976 10s. 0d., as against £52,600 4s. 11d. brought in. This will bring the average distribution since the outbreak of war up to 9½ per cent. on the nominal capital of £600,000. If, however, the real capital employed in the business be taken into account, the average return over the last six years only works out at about 7½ per cent. Larger dividends could have been paid, but it has been our policy since the formation of the Company to strengthen the business and provide the necessary funds for further expansion by the setting aside of ample reserves and by a very conservative policy in the distribution of dividends.

If the Directors' recommendation as to appropriation of profits be approved, the Company will then have reserves and undivided profits to the amount of more than £680,000, and the Directors intend in September to convene the necessary meetings of the shareholders to approve of the increase of the capital and the capitalisation of £600,000 of these reserves in the form of new ordinary shares which will give each ordinary shareholder one new ordinary share in respect of each share now held. At the same time the Directors will recommend the ordinary shareholders to agree to the increase of the dividend payable on the preference shares from 5½ per cent. per annum, the present rate, to 7 per cent., such increase to take effect as from June 30, 1920, so that the instalment of dividend payable on April 1, 1921, in respect of the half year ending December 31, 1920, would be paid at the increased rate. In consideration of this increase in their dividend the preference shareholders will be asked to agree to an alteration in the Articles of Association which will leave it to the discretion of the Board to determine the amount of the profits that is to be carried to reserve in each year, and they will also be asked to agree to the issue of additional preference shares ranking *pari passu* with the existing preference shares provided that the total amount of the preference shares at any one time issued does not exceed the nominal amount of the ordinary shares for the time being issued. At the present moment the amount of the preference shares slightly exceeds the amount of the ordinary shares, but the Directors feel satisfied that inasmuch as goodwill does not figure in the balance sheet as an asset at all the capital position of the preference shareholders will be amply protected provided that the amount of those shares outstanding does not exceed the amount of the ordinary shares.

The object of the Directors in making these proposals is two fold. At present the Company has employed in its business in the form of reserves and undivided profits a sum of money, considerably exceeding the total amount of the ordinary share capital, on which no dividends or interests have to be paid. These reserves and undivided profits represent accumulations of profits which the ordinary shareholders have left in the business instead of distributing them in dividend. As a result of the use of this large sum of money in the business on these terms the profits available for dividend on the ordinary shares appear to be very large because they are only distributed over one half of the actual capital which is used to earn them.

The other object which the Directors have in view is by increasing the preference dividend to secure for the preference shareholders a fair return on the money which they have invested in the business and at the same time to secure for the Company reasonable freedom for expansion in the future. A business such as ours cannot stand still, and in view of the great increase in working capital required and to the largely increased cost of new buildings and machinery the Directors foresee that it may not be possible in the future as in the past to provide wholly for the requisite expansion out of the undivided profits and that it may be necessary to raise additional capital. While the Directors have no immediate intention of making an issue of additional capital, they think it only prudent to take this opportunity of securing the necessary power so that if occasion should arise they may be able to take advantage of any opportunity that occurs without the delay incident to meetings of shareholders and arrangements as between the different classes. I need scarcely add that should a further issue of Preference Shares have to be made it would be the policy of the Directors to afford to the existing shareholders an opportunity of participating in such issue.

As regards the working of the past year, production of pulp in Norway and paper at Sittingbourne both showed a remarkable expansion. Owing to the adoption of the three-shift system in August, a sensible slowing down in the growth of production was experienced with a gradual improvement, the pre-war standard of production having now been passed with the prospect of further improvement in the future. The change over to the three-shift system was a serious handicap to production for the time being, but thanks to the determination of the men all difficulties have been overcome, a result I ventured to predict at our last Annual Meeting.

I am anxious to avail myself of this opportunity to cordially acknowledge the admirable services rendered by the staff and employees during a year of great difficulties—greater perhaps than at any period during the war—and to assure them of the Directors' warm appreciation of their successful efforts.

Mr. Harry Lloyd seconded the motion, which was unanimously adopted, and a final dividend of 1s. 9d. per share (free of income tax) was declared on the Ordinary Shares, making, with the interim dividend already paid, 13½ per cent. for the year.

The retiring Directors, Mr. Harry Lloyd and Mr. E. H. Raynham, were re-elected, and Messrs. Turquand, Youngs and Co., were re-appointed auditors.

The meeting concluded with a vote of thanks to the chairman, directors and staff.

SWEDISH CHAMBER OF COMMERCE.**A NEW LONDON HEADQUARTERS.**

THE foundation-stone of the imposing new building of the Swedish Chamber of Commerce, which is to be erected in Trinity Square, and near Fenchurch Street Station, was laid recently by M. Herman Wrangel, the Swedish Minister in London. M. H. Branting, the Swedish Premier, was also present at the ceremony.

Before laying the stone, M. Wrangel said that the new building would contribute in a tremendous way to develop and increase the good commercial and maritime relations that existed between Sweden and England. These relations had of necessity fallen off somewhat during the war, but now they had set to work again to rebuild them.

M. Wrangel expressed the gratitude to the Mother Country of the Swedish community in London for making the building of the new headquarters possible, and he said he believed that M. Branting and the public in Sweden would do all in their power further to improve the relations that existed between the two countries.

M. Wrangel then laid the foundation-stone, and placed in a space provided beneath the stone a bottle containing an epitome of the history of the Chamber and a full set of Swedish coins. Restrictions of the Bank of England would not admit of a full set of British coins, so only a 3d. piece was included.

M. Branting having tapped the foundation-stone with a mallet, the ceremony concluded. A celebration luncheon was afterwards held at the Hotel Victoria, Northumberland Avenue.

The directors of the Australian Paper Mills propose the payment of a dividend of 1s. per share and a bonus of 6d. on the old issue, and a dividend of 9d. and a bonus of 6d. on the new issue.

PRESENTATION TO MR. AND MRS. FREDK. GILLIS.

To commemorate the silver wedding of Mr. and Mrs. Fredk. Gillis, of the firm of Messrs. Stonhill & Gillis, a party of old friends in the London Paper Trade presented them, on the 4th ult., with a handsome silver salver, suitably inscribed. The presentation came upon them as a pleasant surprise, and the first intimation they received was after calling, on the invitation of Mr. Thomas E. Dryer, at 78, Upper Thames Street, E.C., when Mr. Dryer made the presentation. The subscribers were Mr. Thos. C. Dryer, Mr. James Atkins, Mr. H. J. Sheppard, Mr. Matt Henry, Mr. S. T. Griffin, Mr. F. W. Berry, C.C., Mr. E. M. Fells, Mr. H. Haxton, Mr. John Muir, Mr. A. M. Livingstone, Mr. John Loveridge and Mr. Arthur Wolcott. From a letter accompanying the gift the following was quoted:—"In making this presentation we are all of one accord in tendering to Mrs. Gillis and yourself our most hearty congratulations, and that you may both live for many and many a year to enjoy health and happiness is our most ardent wish." Mr. Gillis expressed to Mr. Dryer his sincere thanks for the spontaneous gift, and hoped he would convey to the subscribers his deep appreciation of their kindness, regard and esteem.

A DECREE was published on the 10th prohibiting importation into France and Algeria of newsprint and cellulose paste for manufacturing newsprint. Prohibition does not affect either shipments proved having been made direct to France and Algeria previous to publication of decree or goods declared for warehousing before that date. Derogations may be authorised by Minister of Finance.

H. REEVE ANGEL & CO.

AND AT:—
53, Dale Street,
MANCHESTER.

9, Bridewell Place, LONDON, E.C.4.

AND AT:—
75, Buchanan St.,
GLASGOW.

Sole Mill Representatives for:—

W. & R. BALSTON, Ltd., Maidstone, KENT.

Manufacturers of the world-famous WHATMAN Drawing, Ledger and Writing Papers, and high grade WHATMAN Chemical Filter Papers.

Sole Mill Representatives for:—

T. B. FORD, Ltd.,

Loudwater, Bucks.

FILTER PAPERS and FILTER PULPS.

Sole Sales Agents in the United Kingdom for:—

THE FINNISH PAPERMILL ASSOCIATION

for the following grades:—

Newsprint: Glazed and Unglazed, on Reels. Printings: Glazed and Unglazed, on Reels. Wallpaper on Reels. Cigarette Papers in bobbins and sheets. Carton and Drawing Papers and Boards. Duplex and Triplex Papers and Boards. Bristol, Ivory and Card Index Boards, etc., etc.

ALSO FOR ENGLAND (North of Birmingham), SCOTLAND and IRELAND for:—
Printings, Writings, Banks, Envelope and Cover Papers, etc., in either Sheets or Reels.

OUR "STUFF-CHEST."

BY "THE AGITATOR."

AMONG those who have recently joined the Federation of British Industries is the Hendon Paper Works Co., Ltd., Sunderland.

NOTIFICATIONS of increase of price have been made by 17 more newspaper and periodical publications. The total for the year is 451.

THE question of further provision for classes in connection with the papermaking industry is engaging the attention of the Blackburn Education Committee.

THE whole of the employees of the Lancashire Paper Tube Co.'s works, Rochdale, came out on strike over a wages question a fortnight ago. Six hundred workers are affected.

MR. GUSTAF GORANSSON KREWZSTRASSE, 55, Dusseldorf (iron, steel, cellulose, and paper-merchant), is among the new members of the Swedish Chamber of Commerce for the United Kingdom.

MESSRS. PALMER, FLYGT & Co., wood pulp agents, of 110, Cannon Street, E.C.4, inform us they have opened a branch office at 25, Hanover Street, Edinburgh, which will be in charge of Mr. James W. H. Graham.

MR. JOHN BLAIRE, for the last 27 years manager of Springfield Paper Mills, Midlothian, on his retirement was presented with a gold curb Albert and a silver cigarette case by the employees and members of his staff.

MESSRS. BERNER & NIELSEN, of 57, Gracechurch Street, London, E.C.3, have been appointed sole agents in the United Kingdom for Sunda A/B, Sundsvall, with an annual production of about 20,000 tons strong sulphite pulp.

It is claimed that less money is spent, in comparison with the respective areas, in Canada, on the development of timber, than in any other country in the world. Yet exportation of timber is one of the staple industries of the country.

MR. JOSEPH BATCHELOR, of 3, Elwick Road, Ashford, and of Little Chart, Kent, retired paper manufacturer, of Joseph Batchelor and Sons, Ltd., who died on June 2 last, left estate of the gross value of £13,220 8s. 9d., with net personalty £6,197 6s. 1d.

THE report on profit-sharing and labour co-partnership in the United Kingdom for the year 1919 shows that three schemes were in operation for that year. The number of employees participating was 374, and the average ratio of bonus to earnings was 12 : 9.

AN exhibition of foreign samples was held at the Leeds Chamber of Commerce last month, when samples of note paper, envelopes, pencils, pens, note books and other stationery requisites were shown. These goods were manufactured in Japan, Italy, and the United States.

ALLUDING to the paper shortage, at a meeting held at Sydney, Mr. H. P. Williams attributed the shortage of labour on paper production to the constant stream of emigration from America, owing to the workmen being denied the light beer and wines they had been used to all their lives.

AMONG the subscribers to the appeal for £250,000 for Westminster Abbey are the following:—Messrs. R. L. Lundgren, Ltd., £105; Mr. J. G. Flowerlews Lowson, £10 10s.; Mr. W. Howard Hazell, £5 5s.; Messrs. James Spicer & Sons, Ltd., £52 10s.; Messrs. Henderson, Craig and Co., Ltd., £52 10s.

THE Postmaster-General announces that letter mails for Mauritius, embarked at Durban on the steamship *Engineer* on June 11, have been destroyed by fire. The posting dates for London are:—April 16 to May 6; May 9 to 13. Correspondence posted on May 7 and 8 was sent by French packet from Marseilles.

AMONG those who were present at the annual dinner of the British Wood Pulp Association, reported in our last issue, were Mr. W. Nash, Mr. A. A. Neale, Mr. Thomas Newlands (J. E. Salvens and Co.), Mr. C. Newell, and Dr. Norling, whose names were unfortunately omitted from our list of guests.

A PAPER suit can now be purchased, it is stated, in the East End of London, the prices ranging from 2s. 6d. to 10s. 6d. per suit. Neither fit nor style is guaranteed, the coat resembling a loose sack, while the trousers are suggestive of the sausage colony. The clothing (?) is described as "bargains" from Germany.

ON and from July 1 current telegrams will be accepted for all countries in Europe at three times the ordinary rates specified in the Post Office Guide. The word "urgent" must be inserted before the address and paid for as an extra word. Such telegrams will receive priority of treatment over other private telegrams for the Continent.

MR. C. L. STEVENS, technical director and papermaking expert of the Imperial Paper Mills, Ltd., Gravesend, has returned from a trip to Canada and the United States. He devoted the first part of his trip to visiting wood pulp mills and touring through the forest lands, to acquire first-hand knowledge of the future home of our raw material.

MR. CHARLES WILLIAM COWAN, of Loganhouse, Moretonhall House, Liberton, Midlothian, formerly of Dalhousie Castle, for many years head of the paper-making firm of Alexander Cowan and Sons, Limited, left personal estate in England and Scotland of the value of £157,551, of which £58,000 odd represents his holding in Alexander Cowan and Sons.

MESSRS. H. D. POCHIN AND Co., LTD., of Worley Street, Manchester, are now satisfying a long felt want in the pottery trade by manufacturing ball clay. For this purpose the firm, which controls 200,000 tons of China clay and stove clay annually, has recently acquired the important business of the Mainbow Clay Co., Ltd., Newton Abbot.

A SERIOUS outbreak of fire took place some time ago at the Glasgow premises of Messrs. Jebb Bros., paper stock merchants. The firm deal in paper and waste material used in paper making and they are also woollen manufacturers. The Glasgow Fire Brigade were immediately on the scene, but it was only after five storeys of a six-storey building were ablaze that they managed to quell the outbreak.

PROFESSOR SIR JOHN CADMAN, K.C.M.G., D.Sc., University of Birmingham, Mr. W. B. Hardy, Soc. R.S., Gonville and Caius College, Cambridge, and Professor Sydney Young, D.Sc., F.R.S., Trinity College, Dublin, have been appointed by an Order of Council dated June 24,

STOCK & MAKING

FINEST COPYING TISSUES

and

WOOD PULP BOARDS

Enquiries and Orders to

The NATIONAL PAPER & PULP Co., Ltd.

Paper Mill Owners & Agents

66 UPPER THAMES ST., LONDON, E.C.4

TELEGRAMS: "WOODPULP, CANNON, LONDON."

TELEPHONE: CENTRAL 981

STOCKS GREASEPROOFS BONDS KRAFTS

1920, to be members of the Advisory Council to the Committee of the Privy Council for Scientific and Industrial Research.

The plans for the reconstruction of the new offices of the Papermakers' Association at 26, Farringdon Street, London, have now been completed. The offices will occupy the second floor of the building, and the total floor space is 1,500 square feet. There will be a commodious main hall, 20 ft. by 37 ft., which can be utilised for the purpose of general and sectional meetings. The remainder of the suite of rooms consist of a writing room, typist's room, waiting room, and the secretary's office.

Urging that the publication of the railway statistics should not be discontinued as a departmental economy, the Federation of British Industries has written to the Ministry of Transport stating that great importance is attached by the Federation to the continuance and improvement of those statistics. The Federation also hopes that it will shortly be possible for the Ministry to publish figures from which the cost of conveying passengers, general merchandise and minerals respectively over the railways can be ascertained.

An interesting presentation took place at a meeting of the shareholders and co-partners of Messrs. Hamptons Ltd., of Cursitor Street, London, the printers of this journal, on the 12th ult., when Mr. Thomas Reeks, chairman and governing director, was the recipient of a beautiful silver tea service and an illuminated address on the occasion of his retirement from the business. Some glowing tributes were paid by several members of the staff to the business qualities of Mr. Reeks, who suitably responded. The presentation was made by Mr. Hayes.

The number of employees in the paper, printing and bookbinding industry during June was 28,412. During June employment in the paper trade was good, but a shortage of fuel and raw materials was reported by employers in certain districts. According to returns furnished by employers 14,503 of the above total were employed in the paper trade during the week ending June 26, 1920, an increase of 0.3 per cent. on the last month, and 30.8 on a year ago. For the same week wages were disbursed to the amount of £46,597, an increase of 2.8 on a month ago and 76.8 on last year.

At a meeting of the Stationers' Court recently, Mr. Edward Unwin was elected the Master, and Mr. C. R. Rivington, J.P., D.L., and Mr. Herbert Fitch were appointed the Wardens. At the same Court eleven apprentices were bound: Mr. A. E. Hutchins, Mr. G. McNeill, Mr. H. E. Rose, Mr. L. F. Rose, and Mr. F. A. Scarbrow were admitted to the Freedom; and the following were admitted to the Freedom and Livery: Mr. Arthur L. Jones (46, Commercial Street, Newport, Mon.); Mr. James J. Keliher (73, Moorgate Street); and Mr. Lawrence G. Sloan (41, Kingsway).

UNDER the auspices of the Welfare Centre at Croxley Mill (John Dickinson & Co., Ltd.), an outing was arranged and took place on the 10th ult., the rendezvous being Henley-on-Thames. Mr. Butler, mill manager, kindly granted permission to cease work at 11 a.m., and the party, which numbered 150, commenced the journey in charrabancs at 11.15 a.m. Tea was provided at the Armistice Tea Gardens, and an excellent meal was done justice to in rare style. The return journey commenced at 7.15 p.m., and Croxley was ultimately reached at 10 p.m., after what was the unanimous opinion of all, to be a most enjoyable trip.

A NUMBER of conferences have been held recently with a view of arriving at an amicable settlement with reference to the wages of papermill workers. The existing scale holds good until September, by which time it is necessary to come to an agreement for the future. There has been a number of protracted discussions on the matter between the representatives of the masters and the men, but, unfortunately, no settlement was arrived at. The matter now lies in the hands of the Ministry of Labour for arbitration, and there is every hope that the matter will culminate satisfactorily for both parties concerned.

We have received from Messrs. Thomas De La Rue, Bunhill Row, E.C., some literature dealing with the Medical Services provided by them for the benefit of their employees. By means of a scheme the salaried employees of limited means can secure first rate medical advice by only paying a small percentage of the fees, the remainder being subsidised by the firm. It is also intended to launch a project to amalgamate a number of firms for the purpose of building a nursing home for all indoor patients. Undoubtedly a general extension of the scheme would have a very far-reaching effect on social welfare, as the need for such service is perhaps greater to-day than it has been for several generations.

MESSRS. EDWARD MORTIMER, LTD., of Silver Street, Halifax, have favoured us with a copy of the new edition of their waistcoat pocket ready reckoner with special tables for stationers, printers, bookbinders, box-makers, and booksellers. Its 304 pp. form a most compact mine of information for all engaged in the trades mentioned, for whom it should indeed be a constant companion. Calculations as to sizes, weights and costs of paper, boards, etc.; equivalent cost in lbs. and kilos.; the metrical system of weights and measures with their English equivalents; names, marks and sizes of millboards; stationer's terms; sizes and number in bundles of strawboard; and a table for ascertaining weight of boards are among the many useful contents of a little book of reference which should be in the hands of every master and man in the trades which it is designed to serve. The price is 3s. 6d. nett, post free.

SIR JOHN THOMAS, of Brook House, Wooburn, Bucks, Chairman of Messrs. Thomas & Green, Ltd., paper manufacturers, who died on April 15, aged 86, left estate of the value of £60,660, the net personalty being £50,716. He bequeathed: £2,000 to the Congregational Union of England towards the maintenance of the minister at Cores End, Wooburn, Congregational Chapel; the freehold bungalow and garden, Southfields, Cores End, to the Charity Commissioners for the use and benefit of the Wooburn Nursing Institute; £5,000, and, when his wife shall cease at Brook House, all pictures, prints, and statuary to the mayor, alderman, and burgesses of Chipping Wycombe, for the formation of an art gallery; £1,000 each to the London Temperance Hospital, the London Missionary Society, the High Wycombe and Earl Beaconsfield Memorial Hospital, and the Marlow Cottage Hospital; £500 each to the United Kingdom Band of Hope Union, the British and Foreign Bible Society, and Congregational Colonial Missionary Society; £300 to the Berks, South Oxon, and South Bucks Congregational Union; £250 each to the Congregational Pastors' Retiring Fund, the Governesses' Benevolent Institution, the National Temperance League, the Congregational Schools at Caterham for the education of sons of ministers, and the English Congregational Chapel Building Society; £100 each to Asylum for Fatherless Children, Reedham and the Orphan Working School, Haverstock Hill; and £200 to his coachman, Frederick Butterfield.

PAPERMAKERS AND PULP AGENTS INSPECT PRESTON DOCKS.

ENJOYABLE SAIL DOWN THE RIVER RIBBLE TO SOUTHPORT.



At the kind invitation of Mr. H. Hopperton, general traffic manager, dock superintendent and harbour-master of the Port of Preston, many well-known representatives of the Northern papermaking and the pulp trade, inspected the docks and River Ribble on June 30, and afterwards sailed down the river to where important dredging operations were proceeding, which were followed with keen interest, especially with the lucid explanations which were given to the company by Mr. Hopperton and his colleagues.

The following gentlemen comprised the party:— Messrs. J. Makin (J. and J. Makin, Ltd.), Chas. Greenhalgh (Greenhalgh & Co.), H. G. Willis (Berner & Neilson), R. K. Kirkpatrick (International Art Paper Co.), H. Crossley (Thor. Thoresen, Ltd.), Rex Weddall (R. Weddall & Co.), W. C. Foster (*World's Paper Trade Review*), A. A. Neale (O. Reich & Co.), G. Rigby (*The Paper Maker*), F. C. Grove (W. G. Taylor & Co., Ltd.), Harry Anderson (J. W. Marshall & Co.), N. Shore (G. E. Davies & Co.), Sidney Kitchen (G. E. Davies and Co.), S. N. Kitchen (Palmer, Flygt & Co.), Herbert Salén (Palmer, Flygt & Co.), — Mattson (Stora Kopparberg, London), D. C. Andrew (R. H. Erikson & Co., Ltd.), T. Newlands (J. E. Salvessen and Co., Ltd.), P. C. Collins (J. E. Salvessen & Co., Ltd.), R. Dickson (Kellner - Partington Pulp & Paper Co., Ltd.), S. M. Eccles (Lewis Clegg & Son), R. W. Gamble (Churchill & Sim), C. Halliwell (Wallpapers Co., Manchester), Harold Holmes (Price and Pierce Ltd.), John Turner (Wallpapers Co., Darwen), F. Scarisbrick (Darwen Paper Mill Co.), A. Holt (Darwen Paper Mill Co.), W. Costelloe (Darwen Paper Mill Co.), T. Somersfields (Johnsen, Jorgensen & Wettre, Ltd.), D. Clegg (Sun Paper Mill Co., Ltd.), F. Brown (Sun Paper Mill Co., Ltd.), H. Clegg (Sun Paper Mill Co., Ltd.), S. Riley (John Wild and Sons, Ltd.), Wm. Clough (Ramsbottom Paper Mill Co., Ltd.), H. E. Drain (Henry Tyrer & Co., Liverpool and Preston), J. T. Hewes (Harry B. Wood, Manchester),

Henry Holden (Chadwick & Taylor Ltd.), Frank Cunliffe, etc.

The visitors arrived about eleven a.m., at the Albert Edward Dock (East end), where Mr. A. Leach introduced them severally to Mr. H. Hopperton alongside the twin-screw tug *Perseverance*.

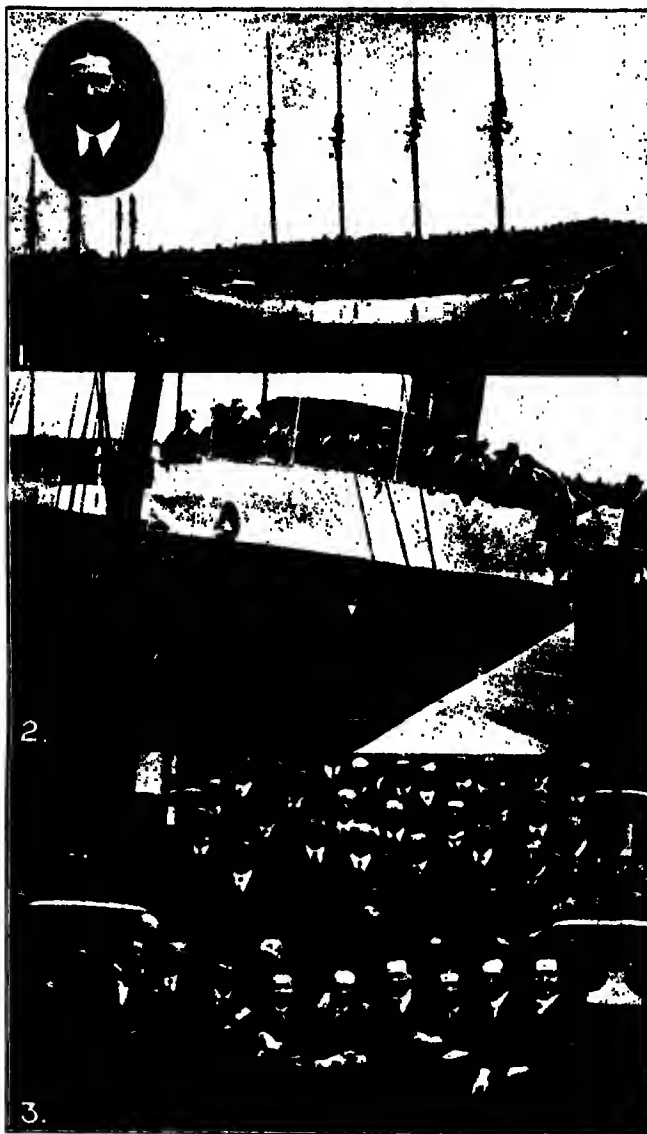
After cordial greetings had been exchanged, the party got aboard, and in bright, fine weather, the boat moved off and proceeded down the channel, where dredging operations were going on. Great interest was manifested in the work, while Mr. Hopperton, accompanied by Mr. A. Leach and Mr. Jas. Barron, explained matters.

At the present time boats of 5,000 tons are able to navigate the river, and it is hoped that within three years from now, as the dredging goes on at present, boats from 6,000 to 8,000 tons will be able to enter the docks. Considering that tramp steamers from Norway and Sweden average about 1,000 tons, it will be at once seen what the Preston Dock Co. are ultimately aiming for.

As the *Perseverance* proceeded down the river, the passengers noticed the huge stacks of pulp on one side, and equally large stacks of timber on the other, while the steamship *Thyra*, Bergen, passed by to the docks, loaded with timber and pulp. A large American sailing boat was also to be seen in the channel, apparently coming for her discharge.

As the party witnessed the dredging operations, heavy clay was observed coming up from a depth of 25 feet, which is deposited far out to form training walls some ten miles further down the river.

Mr. Hopperton (who, by the way, is a Yorkshireman, and has been associated with the Leith, Hull and Liverpool shipping for several years) succeeded Mr. Bilsborough, who retired some eighteen months ago, and now resides at Lytham. Mr. Hopperton came with high credentials, and already has made his presence felt by the work he has accomplished, at the same time earning the esteem and confidence of all who have business relations with him,



1 - ALBERT EDWARD DOCK, PRESTON.
(INSERT, MR. H. HOPPINGTON, DOCK SUPERINTENDENT.)

2 - ON THE TUGBOAT *Perseverance*.

3 - THE PARTY AT THE PRINCE OF WALES HOTEL, SOUTHPORT.

from the highest to the lowest placed, to say nothing of business firms and shippers who use the Preston port. At the present time, some sixteen dredgers are employed at the Preston port, including suction dredgers.

The sail was thoroughly enjoyed by the whole company, and though when in the open sea the boat rolled slightly, only two or three suffered a little from *mal de mer*, and even they soon recovered and joined the rest of the party.

Southport Pier was reached about 2.50, and now a pleasant surprise awaited some of the visitors "not in the know." In other words, the pulp representatives had arranged to invite the paper representatives and other friends, including Mr. Hopperton and his colleagues, to luncheon at the Prince of Wales' Hotel, where all immediately proceeded.

Mr. Andrew, Mr. Neale and Mr. S. N. Kitchen had made themselves responsible for the luncheon arrangements, which were of a most complete character, while the catering was excellently carried out.

The menu was as follows:—

Consommé Royal
Tomato Cream

Boiled Salmon, Hollandaise Sauce,
Cucumber

Roast Lamb, Mint Sauce
Cauliflower Gratin
New Potatoes

Roast Chicken
Salad

Strawberry Melba

Cheese and Biscuits

Mr. Andrew presided, supported by Mr. Makin, Mr. Chas. Greenhalgh, and others.

After the toast of "His Majesty the King, Duke of Lancaster," had been duly honoured, the Chairman called upon Mr. Makin, who said it gave him great pleasure to meet many of his old friends, but he wished now to propose a vote of thanks to the Preston Corporation, in the persons of their representatives, Mr. Hopperton and Mr. Leach, for the very pleasant time they had experienced that morning. It was the first time he had had the pleasure of meeting either of the gentlemen. He had often written to the Preston Dock Co. on business matters, and they all knew when they wrote to a Dock Co. it was so much formality. The next time, however, he wrote to the Preston Dock Co., he should remember Mr. Hopperton's name, for it would now take the form of a personal character, and it was that personal character which they, as business men, ought to strive after. (Hear, hear.) There was another point to observe—that when they got hold of a person, the head of a firm, their first duty was to make a friend of him, so that when difficulties arose, they could the more easily be smoothed over. (Hear, hear.) That was just what he expected would result from now knowing Mr. Hopperton and Mr. Leach personally. Having made their acquaintance, if anything went wrong in the future, so far as the paper and pulp trades were concerned, the personal element between them would help to bridge any difficulty that might arise—they hoped it never would—in a friendly manner, which was a very beneficial way of doing business. (Hear, hear.) They had had the pleasure and privilege of inspecting the Preston docks personally for the first time, at least, many of them, including himself, and they had had an enjoyable sail which they had all appreciated very much. He had great pleasure in rising to propose that the very best thanks of all present be accorded to the Preston

Corporation and to Mr. Hopperton and Mr. Leach, for their kind invitation and for the pleasant sea trip they had given them. (Hear, hear.)

Mr. Halliwell, in seconding, said Mr. Hopperton had shown he was deeply interested in their welfare and in the well-being of the paper and pulp trades. (Hear, hear.) Mr. Hopperton's predecessor, Mr. Bilsborough, was a gentleman deeply interested in the paper and pulp trades, and they were pleased to learn that their old friend was enjoying a peaceful time at Lytham, and that at regular times he conveyed, through Mr. Greenhalgh, his kind wishes to his old friends in the trade. They all hoped that Mr. Hopperton would impress upon his principals the advantages of quoting low prices to the papermaker. (Laughter and "Hear, hear.") They were all anxious to keep their mills going, and they all knew that the lower the price of an article the greater was the consumption. (Renewed laughter and "Hear, hear.")

The vote of thanks was heartily passed.

In responding, Mr. Hopperton said he had been delighted to see the number who had accepted the invitation to inspect the Preston port. The idea was the outcome of a jocular conversation on Manchester Change recently, when the suggestion was thrown out that if he (Mr. Hopperton), would invite them to Preston for a sail, someone else would provide something else. (Loud laughter.) That was the genesis of it all. It had given him great pleasure to be amongst them and get to know them personally, and he hoped it would not be the last time they met under similar happy circumstances. (Hear, hear.) Mr. Makin had given them the human touch of business. The better they knew each other, the better would they know how far to go, and try not to go too far. (Hear, hear.)

Mr. Leach said he was very pleased to hear reference to his old chief, Mr. Bilsborough, with whom he had been associated for many years, and through whom he had had the privilege of knowing the paper and pulp traders. He felt sure that whatever could be done by their present chief and his staff at Preston, would be done with the greatest possible pleasure and to the utmost of their power in the interests of paper and pulp. (Applause.)

Mr. Newlands proposed a vote of thanks to Mr. Andrew for presiding and for making the excellent arrangements at the Southport end, which had, of course, greatly contributed to the success of the day's programme. He also coupled with the proposition the name of Mr. Neale.

Mr. Clough briefly seconded, and it was heartily carried.

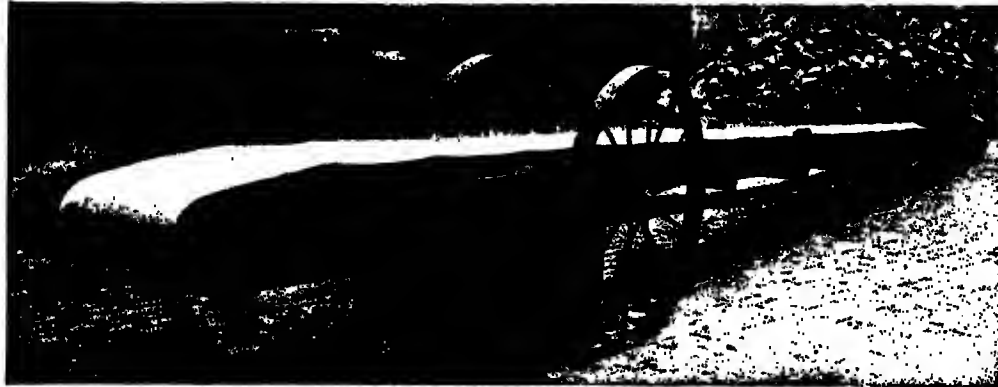
Mr. Andrew, in responding, said he had been ably assisted by Mr. Neale, and he was further indebted to Mr. S. N. Kitchen for valuable help, in making the necessary arrangements at Southport.

The party shortly afterwards separated in parties for bowling greens, sight-seeing, etc., the return being made by train.

We may state here that the fine Albert Edward Dock was opened in June, 1892, by the late Duke of Edinburgh. The first sod of excavation for the dock was cut by King Edward VII when Prince of Wales.

The *Official Gazette* published a Decree on the 16th ult. (says Renter) promulgated on the recommendation of the Premier and the Ministers of Commerce, Finance, and the Interior. The Decree prohibits the importation into France and Algeria, from any country whatever, of paper of foreign origin intended to be used as newsprint, and also cellulose for the manufacture of paper, as defined by the Law of August 14, 1915. The prohibition, however, does not apply to cargoes which can be proved to have been despatched direct to France or Algeria before the publication of this Decree, or to goods whose arrival had been announced at the bonded warehouses by that date.

Type 'B' Patent Portable Troughed Conveyors



The above illustration shows a Type 'B' Patent Portable Troughed Conveyor. They are designed to handle a variety of material horizontally or at a slight incline. The Type 'B' is of light construction to retain portability.

Our Type "B" Portable Trough Conveyor, shown in the above illustration, is designed to handle a variety of material horizontally or at a slight incline. Material can be placed on the conveyor at any point between the feed and discharge end, or we can furnish a feed hopper at the receiving end. The machine is of light construction to retain portability. The closely spaced troughing idlers provide a strong belt support to carry heavy pieces weighing up to 200 lbs.

We can furnish TYPE "B" CONVEYORS with 16" or 18" wide belts in the following lengths:—16 ft., 19½ ft., 23 ft., 26½ ft., 30 ft., 33½ ft. and 37 ft. complete with electric motor.

If you prefer to supply your own motor, we require to know the diameter and speed of motor shaft in order to furnish the proper drive. We stock drives to suit motors from 700 r.p.m. to 1800 r.p.m. These Conveyors can

also be arranged for petrol drive.

By working one 'B' Type in conjunction with an 'A' Type a most flexible conveying system may be arranged.

Type "A" Patent Portable Scoop Conveyor loading from pile into truck.

Sole Selling Agents—

Established 1790

C. H. JOHNSON & SONS, LIMITED

Telephone:
CHEETHAM HILL

Smedley Road, MANCHESTER

Telegrams:
'IRKDALE Manchester'

MANCHESTER AND DISTRICT WOOD PULP AGENTS' PICNIC.

As briefly reported in our last issue, the annual outing of the Manchester and District Wood Pulp Agents took place on June 25, Chatsworth, Matlock and Buxton being visited under the ciceronage of Mr. Charles Greenhalgh (Greenhalgh & Co.).

The party, numbering 25, started in a clur-a-bunc from the front of the Manchester Produce Exchange at 9.45. The weather was dull and threatening and rather cold, and remained so practically throughout the whole day. While passing through Glossop rain began to fall, and continued intermittently until nearing Chatsworth, when the weather became fair, the sun appearing fitfully for short periods. However, everybody was in the best of spirits, determined to make the best of their opportunities.

As in previous years, several trade friends were invited to take part in the day's programme, the party comprising the following gentlemen: Messrs. D. C. Andrew (R. Erikson and Co.), R. A. Broughton (Andrews and Co., Ltd.), H. Clegg (Lewis Clegg and Son), P. C. Collins (J. E. Salvesen and Co., Ltd.), H. Crossley (Thor Thoresen, Ltd.), R. Dirksen (Kellner-Partington Paper and Pulp Co.), S. M. Eccles (Lewis Clegg and Son), W. C. Foster (World's Paper Trade Review), R. W. Gamble (Churchill and Sim), J. C. Geikie (Henderson, Craig and Co.), Chas. Greenhalgh (Greenhalgh and Co.), F. C. Grove (W. G. Taylor and Co., Ltd.), H. Holmes (Price and Pierce, Ltd.), W. J. Joiner (Greenhalgh and Co.), S. N. Kitchen (Palmer, Flygt and Co.), Sydney Kitchen (G. E. Davies and Co.), A. Leach (Preston Docks), A. A. Neale (O. Reich and Co.), T. Newlands (J. E. Salvesen and Co.), G. Rigby (The Paper-Maker), N. Shore (G. E. Davies and Co.), T. Somersfields (Johnsen Jorgensen and Wettre, Ltd.), C. R. Way (Manchester Ship Canal Co.), R. Weddall (Rex Weddall and Co.), H. G. Willis (Berner and Neilsen).

The route taken was via Ashton-under-Lyne, Stalybridge, Mottram, Hollingworth, Whaley Bridge, Melowdra Castle, Glossop, when rain commenced. Leaving Glossop, after a passing glance at Olive & Partington's mills and Lord Doverdale's residence, the party were soon amid the famous Derbyshire hills and dales, where the scenery for

miles is characterised by wild—almost weird—grandeur. The well-known Snake Inn, the first habitation for seven miles either way—was passed. In winter-time this district is impassable after snow-storms, the inhabitants being entirely cut off until snow-ploughs and other devices have

been requisitioned to make a way to the neighbouring towns and villages. Proceeding through all kinds of wonderful scenery, down deep descents and up steep inclines, the party passed through mountain passes, quaint and picturesque villages and hamlets, including Ashopton, which is situated in beautiful, rich pastoral country. Here the river Derwent was crossed over and over again, while Derwent Hall, one of the seats of the Duke of Norfolk, could be seen embosomed in rich verdure. Here it is proposed to dam up the deep verdant valley to form a waterworks for the Midland districts. Bamford and Hathersage villages were passed through, the latter being largely denuded of its woods to provide timber for war purposes. Foxglove was to be seen in great display, despite the fact that its natural shelter woodland—had disappeared. The party were now passing in the midst of the Derbyshire estate of the Duke of Devonshire, with its magnificent game preserves and dense woodlands and parks. The beauty of the villages, with their neat cottages, farm-houses, flower and vegetable gardens, etc., was duly noted and commented upon. Many war memorials were to be seen, either completed or in course of erection, near the village churches or greens. Engine trouble necessitated several stoppages en route, including a stop at the village of Calver, with its water-driven mill, pretty houses and gardens, etc. Baslow village was soon passed, and then

came in view the grounds of Chatsworth Hall, the Duke of Devonshire's seat.

Passing on, Rowsley village was reached, celebrated for its pulp stones, which are highly prized in Scandinavia, as being the finest that are made for the pulp trade.

Proceeding through really delightful pastoral country, the sun made great efforts to break through the clouds, but only partially succeeded. At any rate, there was no more rain. The first crop of hay seen during the journey was at Matlock, reached shortly after 2 o'clock.



1—A SECTION OF THE PARTY.
2—PLEASANT WATERS.
3—A HALT BY THE WAYSIDE.

Stopping at the County Hotel for dinner, the party were greeted by Mr. A. Berry, of Grimsby, and Mr. W. Johnson (Becker & Co.), and subsequently the Rev. W. Greenhalgh (brother of Mr. Chas. Greenhalgh, who is stationed at Belper Parish Church), joined the party at dinner.

Mr. Chas. Greenhalgh presided at the dinner, and referred in feeling terms to the death of Mr. Sam Rider. As a tribute of respect to his memory, all stood up in silence for a moment.

After the toast of "The King, Duke of Lancaster," had been duly honoured, the Chairman said he wished to propose a toast to a body of men to whom the trade were deeply indebted during the war for bringing goods over here at great risk of their lives. During the war their sailors played a great part. Mr. Nicol, at the previous week's dinner in London, made a passing reference to the good work of the Norwegian sailors, and he thought they should all feel grateful and thankful for what the sailors on both sides had done in carrying on their business amid such constant dangers. He therefore proposed the toast of "The British and Scandinavian Sailors."

Mr. Berry said he fully endorsed what the Chairman had said regarding the work that had been done by both British and Scandinavian sailors. Many had lost their lives in fulfilling their duties at sea, so that they were all deeply indebted to the service for what had been accomplished during the war in keeping the trade going.

Mr. Geikie, at the request of the Chairman, said they were all pleased to see the old faces again, and also the new ones, and he hoped there would be many future occasions when they could meet together on the same lines.

Mr. Willis proposed the toast of "The Visitors," to which Mr. Berry responded.

Mr. Newlands proposed the toast of "The Chairman," to whom they were indebted for the arrangements of the day.

Mr. Johnson seconded. He added that both he and Mr. Berry had been waiting to receive the party since mid-day. They had got rather anxious, because the landlord had been questioning him several times about their non-arrival. At one time he was seriously thinking whether he had not better be making a move-on. (Laughter.) It appeared they had had a breakdown, not through excess of moisture, but for the want of it. (Renewed laughter.)

The Rev. W. Greenhalgh said it gave him great pleasure to be amongst them, as he had a certain amount of knowledge about the paper and pulp trade, and had the pleasure of knowing a good number engaged in the trade from his early boyhood. He looked upon the trade as one having great responsibility, because wood pulp was at the bottom of education—the education of the children of the day, and those of future generations. If there was no pulp, there could be no paper, or the printing of books, consequently the trade was one of great importance. Let them produce good pulp and they would get good paper. (Hear, hear.)

The Chairman briefly returned thanks, and expressed the hope that they would all meet on these occasions for many years to come.

The party left Matlock at 4.5 p.m. in fine weather, proceeding by Rowsley, Haddon Hall, with its memories of Dorothy Vernon, Bakewell, past the several demesnes of the Dukes of Rutland, Newcastle, Portland, and Devonshire. At Ashford a brief stop was made, and several sn pshots taken, after which another start was made at 5.7, and at 5.50 the party arrived at the Grove Hotel, Buxton, for tea.

After a brief ramble round the famous watering place, the return journey to Manchester was commenced at 7.7, the route taken being by Whaley Bridge, New Mills, Disley, Hazel Grove, Stockport, Manchester, Victoria Station being reached at 8.45, to enable friends to catch connections to Southport, Preston, Lytham and other destinations.

With the exception of the engine trouble during the outing, everything passed off without a hitch.

CONTRACTS WITH H.M. STATIONERY OFFICE.

CONTRACTS have been awarded during June to the following firms by H.M. Stationery Office for papers of various descriptions: J. Baldwin and Sons, Ltd., Kings Norton; W. R. Balstons, Ltd., Maidstone; Cooke and Nuttall, Ltd., Norwich, Lancs.; A. Cowans and Son, Ltd., Penicuik, N.B.; R. Craig and Sons, Ltd., Airdie; J. R. Compton and Sons, Ltd., Bury; Darwen Paper Co., Ltd., Lower Darwen; C. Davidson and Sons, Ltd., Bucksburn, Aberdeen; Yates, Duxbury and Sons, Ltd., Bury; E. Lanes. Paper Mill Co., Ltd., Radcliffe; Esco, Ltd., London; R. Fletcher and Son, Ltd., Stoneclough, nr. Manchester; Ford Paper Works, Ltd., Hylton, Sunderland; C. T. Hook and Co., Ltd., Snodland, Kent; Ilford Paper Mills, Co., Ilford; Imperial Paper Mills, Ltd., Gravesend; London Paper Mills, Ltd., Dartford; C. Marsden and Sons, Ltd., Northfleet, Kent; North Fleet Paper Mills, Ltd., Northfleet, Kent; Olive and Partington, Ltd., Glossop; Reed and Smith, Ltd., Buckfastleigh and Callompton; R. Somerville and Co., Ltd., Taunton; Ulverston Paper Co., Ltd., Ulverston; Wiggins, Teape and Co. (1919), Ltd., Hele, etc.; Wright and Sons, Marlow, Bucks. The India Office (Store Department) has placed a contract for linen backed papers in the hands of A. E. Mallandain, London. The Crown Agents for the Colonies have awarded their paper contracts to C. Baker, and Co., London, E.C.; J. Dickinson and Co., London, E.C.; C. Briscoe and Co., London, E.C.; T. H. Saunders and Co., London, E.C.; R. T. Tanner and Co., London, E.C.; Waterlow and Sons, London, E.C.

PAPER EMPLOYEES' OUTING.

A very enjoyable picnic of the staff and employees of Messrs. Brindle & Son, Ltd., Sankesbury Paper Mill, took place on the 25th ult., the party numbering 125, including Mr. and Mrs. Brindle, whose recent marriage was reported in a previous issue. Five chairs-a-bancs were engaged, and proceeded to New Brighton and Chester. After a very enjoyable run to New Brighton, lunch was served at the Victoria Hotel, after which the journey was resumed to Chester, where tea was served at the Nag's Head. Advantage was taken of the occasion to celebrate the recent wedding of the head of the firm, who was heartily congratulated by Mr. Jos. Wrigley on behalf of the employees. They wished Mr. and Mrs. Brindle every happiness and prosperity, and expressed the hope that the happy relations that existed between principal and staff would continue for many years to come. Mr. Thos. Green also spoke. Mr. Brindle briefly responded in a happy speech, after which the rest of the time was spent in visiting the sights of the ancient city. The programme also included an enjoyable sail down the beautiful river Dee. The return journey home proved equally enjoyable, and all expressed themselves highly pleased with the day's programme.

THROUGH the courtesy of Mr. E. H. Raynham, of the firm of Messrs. Edward Lloyd, Ltd., our representative was recently accorded the privilege of inspecting their magnificent offices at Salisbury Court, which have lately been renovated. Beautiful light oak panelling on the walls, and furniture produced from similar wood is the first feature which strikes the eye. On the ground floor are the usual offices and waiting rooms, while on the second floor are the private rooms of Mr. Frank Lloyd and Mr. E. H. Raynham. The next two floors are reserved for the use of the general staff, while the flat roof commands excellent view of St. Paul's Cathedral. In studying the comfort and surroundings of their staff Messrs. Edward Lloyd, Ltd., have set an excellent example which well might be emulated by other firms.

THE STATIONERS' COMPANY.

THE FIRST LIVERY LUNCHEON.

SOME 130 liverymen of The Stationers' Company and their guests met for luncheon in the Stationers' Hall recently, Sir William A. Waterlow, K.B.E., occupying the chair. In briefly describing the reason of the meeting, he said it would be interesting for them to know that an annually elected Committee from the Livery, whose duties would be those of furthering the interests of the Livery, had been recognised by the Court of the Company. It had been suggested that a club amongst the Livery, with accommodation in the hall, should be formed. At the moment the Court could not agree to this proposition, but he felt certain that this matter would be under consideration again shortly. Referring to one of the Company's early functions—that of "The Training of the Craftsman"—he said that together with representatives from the various printing and kindred trades organisation the Company will consider a scheme under which training and education in these trades will be carried out.

The toast of "The Company" was proposed by Mr. R. A. Austen-Leigh (Chairman of the Livery Committee), the Master, Mr. E. J. Leyton, responding.

Mr. Stanley Machin, President of the London Chamber of Commerce, replied to the toast of "The Visitors." He said that the Stationers were making history, and the occasion under which they met that day was a historical one, for as far as he knew this was the first time that the Livery of a City Company had arranged a luncheon amongst themselves. He was of an opinion that election to the Courts of the various Livery Companies should be by ballot, not seniority, for by such methods they would be kept in closer touch with the needs of the times.

Mr. J. L. Greaves, representing the Livery Committee, said he had pleasure in proposing a vote of thanks to the Chairman, Sir William A. Waterlow, for the admirable manner in which he had occupied the chair at the first Livery luncheon of the Stationers' Company in their own hall. The Livery Committee were under a great debt of gratitude to Sir William, who had attended every meeting of the Committee, and had been extremely careful to faithfully present the feelings of the Livery without hurting the susceptibilities of the Court. Mr. Greaves said that there could be no more admirable Chairman for a gathering of that kind than Sir William Waterlow. The name Waterlow represented all that was best in the public and commercial life of this country. He would also like to assure the Court that the Livery Committee were not revolutionary; in fact they had the greatest possible respect for the traditions of the Stationers' Company and for the wishes of the pious and estimable men who in years gone by had founded and strengthened the Company. It was, however, useless to ignore the fact that there was a feeling that the Stationers' Company might render itself more useful, and that was the real purpose the Livery Committee had in view.

A similar luncheon, it is understood, is to be arranged each month when a distinguished guest will be invited for the purpose of giving a short address on some subject of current interest. These luncheons would terminate not later than 2.30, with a view of not interfering with the business demands of those present.

It is worthy of note that the artistic menu card was printed by the disabled men being trained as printers at the St. Bride Foundation Printing School.

Amongst those present were the following:—Sir William Waterlow, K.B.E. (Chairman), The Rt. Rev. The Lord Bishop of N.W. Australia, Sir Howard Spicer, K.B.E., Sir Alfred Robbins, Messrs. R. A. Austen-Leigh (Chairman, Livery Committee), E. W. Humphries (President, Master

Printers' Federation), E. J. Layton, (Master Stationers' Company), Stanley Machin (President London Chamber of Commerce), W. R. Codling, C.B.E., M.V.O. (Controller Stationery Office), A. G. Gronow, C.B.E., J. L. Greaves, E. C. Austen-Leigh, J. A. Truscott, Lieut.-Col. Truscott, O.B.E., A. F. Blades, G. Pulman, Edward Unwin, J. J. Keliher, Humphrey Milford (President, Publishers' Association), T. J. Stevenson, J. A. Hodgson, J.P., the Rev. W. C. Piercy, Robert Scott, Henry Ifill, W. Howard Hazell, R. T. Rivington (Clerk to the Stationers' Company), W. Will, P. McFarlane, and J. R. Riddell (Hon. Secretary, Stationers' Livery Committee.)

THE PAPER TRADE ABROAD.

MAJOR S. H. ALSTON'S IMPRESSIONS.

MAJOR S. H. ALSTON, manager of the Paper Department of Messrs. Felber, Jucker and Co., Ltd., Peter Street, Manchester and London, who has recently returned from a business tour on the Continent, very kindly granted an interview to our Manchester representative at their palatial offices, when the position of affairs in connection with the paper trade were discussed.

The Major said he was much impressed with the remarkable recovery of all industries which was taking place in Belgium and France, including the paper trade. Orders were plentiful, but at present could not be executed for export on account of the Germans having, during their occupation, taken hydraulic presses and vital parts of every kind of machinery and plant which they could lay their hands upon and remove. Where they could not remove, they had wantonly destroyed or damaged irretrievably.

At the present time all undamaged machinery and plant are being restored to Belgium and France, so that in the near future it was hoped the various paper mills and other works would be in a position to export again. In the case of paper, the amount to be exported would depend upon the supplies of pulp obtainable and other essential raw materials. For this purpose both Belgian and French buyers are looking far ahead and far afield for their supplies.

Both Belgian and French firms wished to deal with their British connections in preference to any other country, and at the present time they are most anxious to open up again with their old British trading friends.

Prices, no doubt, are naturally high, and no doubt will remain high for a very considerable period to come on account of the excessive cost of all raw materials.

Regarding labour on the Continent, they had adopted the eight-hour movement, but they have got over the difficulty of the 24-hour day by their workmen working on twelve-hour shifts at time and a half for the extra four hours. He (the Major) thought it a great pity that other countries had not adopted the same method of working and thereby secured full production.

In Sweden, for example, the workpeople were not allowed to work more than eight hours (this is a Government regulation), which necessitated having three shifts, for which, however, they had not sufficient skilled men available. The consequence was, that both Belgian and French mills were securing full production against other countries' part productions. Naturally this made a vast difference in the output in favour of the Belgian and French mills.

During his tour, Major Alston had been fortunate in opening up his firm's old connections of pre-war days, so that Messrs. Felber, Jucker and Co., are now in a position to offer their clients papers that have been practically unobtainable since the outbreak of war in 1914.

It is understood that Major Alston is about to proceed to Scandinavia and Finland in connection with his firm's business interests.

SKIN
GELATINES
 AND
GLUES.

PURE SKIN GELATINES AND SKIN GLUES, FOR PAPER
 COATING AND SIZING.

HIGHEST GRADES.

OURY, MILLAR & Co.,

9, Mincing Lane,

LONDON, E.C.3.

Telephone—4978 Avenue.

Telegrams—"Olmonth-Fen, London."

THE
Forth & Clyde Coal Co., Ltd.,

Coal Contractors to H.M. Government,
 Colliery Agents and Exporters, * *

21, HOPE STREET, GLASGOW.

Telegrams:
 "Twentyone, Glasgow."

Telephones:
 868; Central (3 lines).

EVERY DESCRIPTION OF STEAM COAL AND
 SMALLS FOR PAPER MILLS IN CARGOES OR
 BY RAIL. HOME & FOREIGN MILLS SUPPLIED

SCOTTISH NOTES.

Recently the members of the staff employed by the well-known firm of Messrs. Caldwell and Company (Inverkeithing Paper Mills), accompanied by friends, had an enjoyable drive to Rumbling Bridge. About fifty in number, the party left the burgh in the forenoon accommodated in three brakes; a stoppage was made en route for lunch, and ultimately the destination was reached after a most enjoyable drive through pleasant scenery. The afternoon was passed with games and races, for which prizes were given, and tea was partaken of at the Rumbling Bridge Hotel. The weather conditions were ideal, and the party lingered so long on the homeward journey that it was nearly midnight when home was reached.

Members of the Penicuik Branch of the National Union of Printing and Paper Workers recently held a concert to mark the occasion of Mr. James Hislop's resignation from the chairmanship of the Branch. Mr. Thomas Clapperton, who presided, expressed his gratification at the large turnout, while later in the proceedings Mr. Clapperton, referring to the brief history of the Branch, said that they had all benefited by the Union and found that they could get their grievances better attended to collectively than as individuals. Their Branch (which had a membership of one thousand) had been complimented by headquarters on the way it had been conducted, and was now second to none in Scotland.

Thereafter Mr. James Hislop was presented with a beautiful gold watch, suitably inscribed, and chain and pendant in token of the appreciation of his services as chairman during the past twenty-two months, and several members described the recipient as having made an ideal chairman who did much to build up the branch. Mr. Hislop, in thanking the members for their gifts, felt he could not find words to express his appreciation of their kindness for his humble efforts. He hoped the Branch would flourish, and have a long life and many future successes.

On the occasion of the holding of the annual conference under the auspices of the Scottish Newspaper Proprietors' Association—which took place in the university town of St. Andrews—a prolonged discussion took place on the threatened famine in paper. Instances were submitted where newspaper proprietors would have had to shut down but for the help given them by those who happened to be better situated and could spare a little from their own supply; and one of the proposals discussed was that a deputation from the Association should wait on Sir Robert Horne (of the Board of Trade) and solicit his influence in support of a scheme whereby the interests of all newspapers would be impartially considered, and no section of the press would suffer because of the excessive supplies of another. It was eventually resolved to recommend all the newspaper proprietors in the Association to adopt standardised sheets and arrange with the paper mills that the paper be supplied accordingly.

Recently a serious outbreak of fire occurred at the Don-side Paper Mills at Aberdeen, when damage—which was fortunately covered by insurance—to an amount between £1,500 and £2,000 was done. It appears that the fire (which took place in the yard) originated deep down in a stack of Lulac pulp, and it is thought that a spark from one of the four cranes which were busy lifting and depositing the bales was responsible for the outbreak. The pulp had burst into flames before the outbreak was discovered by one of the men in the lodge at the entrance to the mills, who immediately gave the alarm, and the brigade belonging

to the mill was promptly on the scene and a copious supply of water was directed on to the burning mass. The Aberdeen Fire Brigade were telephoned for as a precautionary measure, but before its arrival owing to the strenuous efforts of the workmen the fire was pretty well under control. With the aid of the Aberdeen Brigade additional hydrants were brought into play, and soon the outbreak was completely in hand.

There was a large quantity of pulp in the yard—which is adjacent to the works and covers a large area of ground—and the stock of wood pulp consisted of about 10,000 bales. It was observed that the outbreak had got a strong hold in the centre of the stacks, and a number of workmen, with the assistance of the cranes, at once set to work removing the bales in the vicinity of the fire. Fortunately the lightness of the wind favoured the efforts of the firemen and tended to make their work less strenuous, but had the circumstances been otherwise, probably the majority of the bales would have been destroyed. As it was, between 150 and 200 bales (weighing four hundred-weight each) were destroyed.

Recently the employees of the well-known Stoneywood Paper Mills at Denny—the proprietors of which are Messrs. John Collins, Limited—held their annual excursion in what fortunately was ideal weather for a day's outing. The rendezvous chosen was the fair city of Perth, and four well-laden motors took a large party through the very pretty and picturesque scenery which lined the route. In a little over three hours the trippers reached the fair city, where, after a luncheon, sight-seeing and boating occupied the attention of the company. After an altogether enjoyable stay the homeward run was commenced, and at half-past nine the company arrived back in Denny. The committee who looked so well after the arrangements were Messrs. Pat McKenna, John Cousland, William Kerr, Adam Johnston and William Morrison—the latter carefully attending to the secretarial duties.

An important appointment of which I have learned is that of Mr. Laurence Stewart—who for a lengthy period has been associated with the Ford Paper Works at Sunderland—as the new general manager of the Springfield Paper Mills at Midlothian. Mr. Stewart has had a life-long experience in all branches of the paper-making trade, and he comes back to Scotland well qualified to take up the management of the important mills in question. Formerly, I understand Mr. Stewart was associated with the Chirnside Paper Mills, and his experience in a managerial capacity has been both progressive and most important. The Springfield Mills rank as among the largest of their kind in this part of Scotland, and a very important trade in all the departments is carried on.

In connection with the above appointment, by the way, I should also mention that for the past twenty-seven years the Springfield Paper Mills have been most excellently and efficiently managed by Mr. John Black, who has now retired from active service after a very worthy and honourable record. Prior to taking up this important appointment, Mr. Black was foreman in the Valleyfield Mills at Penicuik, and I need hardly say that he has not been allowed to terminate his long association with the paper trade in this country without being made the recipient of a tangible token of esteem. I understand that Mr. Black has been presented with a handsome gold curb Albert and silver cigar case on behalf of the staff and employees, and Mr. W. Isles (the secretary of the company) and Mr. R. Duncan, in making the presentations, paid high tribute to his faithful service to the firm in question.

A very destructive outbreak of fire occurred some time ago in the factory of Messrs. Jebb Brothers, Limited, at Plantation, Glasgow, when damage to the extent of about £30,000 was done before the flames were brought under check. This firm are among the leading dealers in the West of Scotland in paper and waste materials used in paper-making, and the building involved was of stone line, consisting of six storeys and attics composed of offices and pressing rooms at one end, the remainder being used as a store for rags, paper, rope, waste and other stock. It was a very hard and strenuous struggle that the firemen had with the rapidly spreading flames, and from the first it was seen that the struggle for mastery was to be a stern task. In a short space of time the fire spread to the large stocks of inflammable materials in the floors above and below the floor first involved, and the hungry flames flashed and roared as they devoured the stocks of paper and rags within the building and presently vicious red-forked tongues of fire showed in the upper storey and soon the entire building was ablaze.

Seven pumps were soon at work, and no fewer than twenty-one lines of hose were played on the fire, which sizzled and crackled under the deluge of water. After the battle had been in progress for about an hour the roof, unable to withstand the rages of the flames, collapsed—sending up myriads of sparks. All hope of saving the building was gone, and the only thing that could be done was to prevent the fire from spreading. For over three hours the fight continued with the firemen doggedly and relentlessly pouring water into the burning building until they finally gained the mastery over the fire. It was inevitable in the circumstances that there should be heavy damage by water as well as by fire. Much of the contents

of the five upper floors were destroyed, and at the end the building stood roofless. According to the fire brigade estimate the total damage amounted to about thirty thousand pounds, but all is believed to be covered by insurance. This undoubtedly is one of the biggest outbreaks of fire which has occurred in Glasgow or the West of Scotland within recent years.

Recently intimations on the Glasgow tramway cars drew public attention to another aspect of paper shortage. It was pointed out that the annual bill for tickets now reached the amazing figure of £30,000, and appeals were made to travellers to drop all used tickets into the box provided for their reception at the rear of the cars. The tickets would therefore be disposed of by the department as waste paper, and not only would an economy be effected by this course but the present untidy appearance of ticket-littered streets at the principal stopping places would be avoided—so remarked a local newspaper scribe with more than a grain of sound sense. I may add, by the way, that this appeal to the public was by no means in vain, and that since then the little boxes on the trams in question are always well filled with used tickets at the end of each journey.

"Side Talks with Sir Occo" is the title of a most interesting booklet published by Messrs. Davidson & Co., of Belfast, which deals with the merits and advantages of the Sirocco Centrifugal Fan. The book is the first of a series to be issued, and the prose therein is particularly bright and interesting. Messrs. Davidson & Co. would, we feel sure, be only too pleased to supply a copy to any of our readers on request.

FOR

QUALITY AND QUANTITY

COMMUNICATE WITH THE
ORIGINAL
RELIABLE FIRM

COOKSON BROTHERS,
STOCKPORT, ENGLAND.

Telegraphic and Cable Address:

"BAGGING, STOCKPORT."

Codes—A B C 5TH EDITION, LIEBEN'S, WESTERN UNION, WASTE TRADE, PRIVATE.

Telephone:

No. 609 Stockport (3 lines)

Every description of Linen Rags, Cotton Rags, Woollen Rags, Ropes, Bagging, Surat Tares, Hessian Twines, Canvas, Tarpaulin, Wood Pulp, Engine Waste, Sponge Cloths, Cotton, Cotton Waste, New Papers, Waste Papers, etc., etc.

NORTHERN NOTES.

MANCHESTER BRANCH OFFICES,
448-450, PRODUCE EXCHANGE,

July 22, 1920.

THE present time is considered to be the "dog days" of the pulp trade. That was the expression used by a well-known gentleman upon whom I called for certain information.

Of course, the months of July and August are generally "slack" times, which undoubtedly largely accounts for the absence of any particular show of business.

Notwithstanding this, however, it behoves the wary buyer not to allow himself to be lulled into a kind of false security, because the market is not by any means on the down grade.

Moist mechanical certainly shows an upward tendency, and, as I have previously written in these columns, there is undoubtedly a shortage coming along.

As much as £18 10s. f.o.b. for Norwegian pulp is being asked at the time of writing, and what is more, it is being obtained, which surely points the moral.

Dry mechanical is still being offered, but not in any large quantity, at £34 to £35 c.i.f. East Coast, and it is anticipated that even these prices will still further advance.

Strong sulphite is now very scarce, especially for delivery later this year, and there is still much demand owing to the great scarcity of newsprint.

Easy bleaching sulphite still keeps very firm, and, as I have already pointed out, many mills abroad are absolutely outsold till the end of 1921.

Soda pulp seems pretty firm, but I am given to understand that some stocks of this are held on this side, and that this class of material seems to be the only quality that can be regarded as free.

Kraft soda is also still firm in price, and I believe that quotations are to-day at 750 kr. f.o.b.

I have previously forecasted that freights would be easier, and this seems to have come to pass, for I understand that mechanical has just been shipped from Norway to the East Coast at under 30s. per ton. Freights are indeed dropping all round, to the great relief of all concerned.

The Imperial Paper Mill debenture issue was the subject of much interesting discussion in this part of the world. The general feeling seemed to be that for a really sound investment one could not do better than get busy about this business.

Undoubtedly many applications were sent from Lancashire, but seeing the lists were closed at 3 p.m. on the Tuesday—the day following the issuing of the prospectus—it is doubtful if many of the Northern applications would reach in time to secure a share of the good things.

One wonders if there is any truth in the latest rumour that yet another mill within a hundred miles of Blackburn is under consideration for purchase.

It is now an open secret that a smaller mill in the East Lancashire district is likely to pass over to fresh owner-

ship, if it is not already *fait accompli* before these lines are published.

Mr. H. Hopperton, Superintendent of the Preston Docks, is making quite a name for himself in commercial circles for the able manner he caters for shippers. Comparisons are said to be odious, but one cannot help hearing of the differences of treatment received at Preston Docks with that meted out to importers and others elsewhere in this country.

The time is fast departing when public officials and others can ride the high horse in commercial dealings, shipping business included.

To revert, however, to the subject of pulp. I hear on good authority that there is a big demand still from American buyers to secure supplies both of strong sulphite and mechanical pulps.

And a strange thing is that Americans are endeavouring to buy ahead, and, according to the big houses who ship to America, this is an event that has not happened previously.

Moreover, it may as well be stated at once quite frankly that the New York and Boston houses are not sticking at mere figures, while every possible inducement is being made to the Norwegian sellers to undertake contracts.

I am also informed on the best authority that one enquiry from America was for no less a quantity than 75,000 tons of mechanical pulp.

A certain mill that recently changed hands in the North has already experienced such a demand for further shares that a premium of 5s. to 6s. on the shares is being paid. This shows the great confidence that is placed in the management of this go-ahead concern.

Mr. Harold Rogerson, formerly of Messrs Brindle & Son, Samlesbury Paper Mill, has taken up an appointment with Messrs. T. Y. Nuttall, of Manchester.

The International Art Paper Co. have just entered into more spacious offices in the Corn Exchange Buildings, Manchester, which have been fitted out with all the latest improvements and conveniences to meet their growing requirements.

I have just learned of two approaching marriages of well-known gentlemen connected with the paper trade, which will be dealt with in our next issue.

MANCUNIAN.

As a result of negotiations, the British Clearing Office, pursuant to section 1 (ii) of the Treaty of Peace Order, 1919, now allows British creditors and debtors to communicate in writing with their German debtors and creditors direct with regard to pre-war debts or debts arising out of pre-war transactions or contracts, with the sole object of ascertaining the particulars of indebtedness between the parties, provided that no proposal or suggestion is made for the payment or settlement of such debts except through the Clearing Offices, and that the party so communicating shall retain true copies of such communications and the original replies thereto, and hand the same to the Controller on demand at any time. Any direct communication outside the scope of this licence is an offence punishable by fine and/or imprisonment.

PAPER-MAKERS' AGENTS' SUCCESSFUL OUTING.

As a brief respite from the business world, Mr. Matt Henry recently arranged a most enjoyable outing for a party of well-known representatives of the London paper trade fraternity. Some of the most picturesque spots in England were visited, and with old King Sol smiling merrily on the "land of solitude," the pleasant memories of the trip will not likely be forgotten for many a day. The party congregated after lunch at Paddington Station, from where the journey was made to Slough. Here motor cars were boarded, and on the way to Burnham Beeches, a halt was made at Stokes Poges to allow the ancient church and Gray's monument to be visited. The county of Bucks is famous for its scenery, and Mr. E. M. Fells, who is a native of the county and familiar with the surrounding country, was in his element in describing its beauties. A pleasant run ensued to Droghmore Park and Cookham. Mr. Henry had arranged an excellent dinner at the "Bell and Dragon," which was thoroughly enjoyed. Many reminiscences of the London paper trade were subsequently contributed by the Chairman (Mr. Matt Henry), Mr. Tom Dryer, Mr. A. M. Fells, Mr. S. T. Griffin, Mr. J. H. Hapton and others. In an appropriate speech, the Chairman expressed the great pleasure it afforded him to have with him that day some of his oldest friends in the paper trade, and particularly mentioned his long acquaintance with Mr. Tom Dryer. The toast of "the Ladies" was then submitted by Mr. Henry, who suggested that the idea was well worth entertaining of arranging a similar outing for the ladies of the paper trade. Mr. Dryer expressed to the host (Mr. Henry) the heartiest thanks of the company for his kindness in arranging such an enjoyable outing. They were delighted to learn that his trip abroad had proved so beneficial from a health standpoint.

A motor lanch was chartered for the return journey from Cookham to Maidenhead. An excellent view was obtained of Lord Astor's residence at Clevedon Woods. A landing was effected at Mr. Stanley Cousins' residence, better known as "The Little Fishery." A hearty welcome was accorded them by Mr. and Mrs. Cousins' whose hospitality was highly appreciated. The party entrained at Taplow for London, which was reached shortly before eleven o'clock, the outing being voted a great success.

The first annual outing of the staff of Messrs. Charles Morgan and Co., Ltd., 58-60, Cannon Street, E.C., took place on the 24th ult., when a visit was paid to Southend. Luncheon and tea were served to the party, which numbered 44, at the Victoria Hotel, under the presidency of Mr. H. J. Panther and Mr. F. W. Bush, who officially represented the firm. An invitation having been given by the clerical staff of Messrs. Basbridge and Co., Ltd., East Malling, to a cricket match, seventy members of the staff selected East Malling in preference to Southend as the venue for a day's respite. Here again the "inner man" was well catered for, an excellent menu being provided at the Cannon Restaurant, Maidstone. The match culminated in an easy win for the challengers, who scored 250 runs to the fall of five wickets to 103 runs by their opponents. Mr. D. Huddleston and Mr. A. Broad, of the East Malling Mills, displayed remarkable prowess with the bat, the former scoring 102 (not out), and the latter 60 runs. A noteworthy feature of the day's programme was a visit, by the kind permission of Mr. C. Baxendale, of Clare Hall, to his palatial mansion. Built about 120 years ago, upon an eminence with a beautiful vista of surrounding country, it is a curiously shaped building, surmounted by a large glass dome, and so arranged that every room is circular. The return journey was then commenced and London was duly reached at 8.50 p.m., the unanimous opinion being that the outing was a great success.

TELEPHONE: 6820 CITY.

TELEGRAMS: "PAPER, MANCHESTER"



Pollard St. East, MANCHESTER.

WASTE PAPERS, BAGGING & ROPES.

OUR STRONG POINTS.

PROMPT ATTENTION,

::

RELIABLE GRADING.

CARE AND CLEANLINESS IN SORTING.

TWENTY-FOUR YEARS AGO.

JOTTINGS FROM "THE PAPER MAKER," AUGUST 31, 1896.

It is reported that a paper mill will shortly be built at Hall Crete, Surrey.

Mr. T. H. Taylor, of the Riordan Paper Mills, Merriton, Ontario, recently arrived in this country by the s.s. *Umbria*.

Mr. Andrew Masson (Masson, Scott & Co.), Mr. Macenory (works manager, Bentley & Jackson), Mr. Waite (*Daily Chronicle* Paper Mills), and Mr. J. Turner (Star Paper Co.), have returned from their trip to the States.

A Canadian correspondent writes to an exchange as follows:—"The excellences of our pulp, however, are not allowed to be hidden under a bushel, as Canadian agencies in London are keeping them well before the trade. A new office has been opened in Liverpool by a company from this country, called the Canadian Pulp Company."

Mr. J. Bentley, J.P., of Radcliffe, Lancashire, whose death was lately announced, was well-known in the paper trade circles in Lancashire, and was chairman of the East Lancashire Paper Mill Co. He was also a member of the firm of Messrs. John Bentley & Sons, manufacturers, of Radcliffe, was connected with various local authorities, and was a county magistrate.

Early on the morning of the 20th inst. it was discovered that the premises of the West London Paper Mill Co., in Lot's Road, Chelsea, were on fire. The building attacked was 160 ft. in length, and 80 ft. wide, used as a sorting-room. A considerable portion of this structure was burning when the first engine arrived. The flames were eventually subdued, but the building was badly damaged by fire, heat, smoke and water. The cause of the outbreak was unknown.

Referring to our remarks in the last issue, relating to the success of the divining-rod at the Culter Paper Mills, we understand that Mr. Thomas Matthews, of the Imperial Ironworks, West Gorton, Manchester, is now boring a hole, 18 ins. in diameter, for obtaining the supply of water. It appears that Mr. T. S. Tait, of Messrs. Thomas Tait and Sons, Inverurie, was also present at the divining experiments, and appeared to be so satisfied with the results that his firm have also instructed Mr. Matthews to bore a 12 in. hole. Mr. Matthews's firm at West Gorton have been very successful in water boring operations, and have obtained quite a reputation for this class of work.

Mr. C. Waite, superintendent of the *Daily Chronicle* Paper Mills, who has made a tour of the papermaking centres of the United States, with a mind open for ideas in the way of new machinery, thinks that perhaps some American-made machinery will be introduced into the mills in England. Their paper mills make about 90 tons a day, and they have woodpulp mills in Norway. According to an American Exchange, Mr. Waite is reported to have said: "In all his experience and travels, he never saw so fine a sheet of print paper as is turned out every day in the Montague Mills. He says England would give a good lot of money to possess the skill or material, whatever it may be, to enable them to create such a product. He was a guest of the Marshall Brothers here, having made their acquaintance when they put Marshall engines into their mills."

An inquest at the Cliff Hotel, Port St. Mary, Isle of Man, on Friday night, the 7th inst., touching the death of

H. Melody, 29, bookkeeper for Messrs. Duxbury & Sons, paper manufacturers, Bolton, and who lived at 115, Turton Road, Turton, near Bolton, and was drowned whilst bathing at Chapel Bay on Friday afternoon. Charles Robert Seidon, of Bury, said he had known deceased intimately for thirteen years, and both went out in a boat for the purpose of bathing. As deceased could not swim, he measured the depth of water with his oar, and whilst witness was undressing, he heard him jump in the water. He, however, paid no attention, but on hearing shouts from the shore, he looked round and saw deceased's head and arms above the water. The boat had drifted about 15 yards, and witness at once rowed to the spot, but deceased had disappeared. The body was subsequently recovered from about 3-ft. of water.

On Tuesday, the 4th inst., a terrific boiler explosion occurred at the large Springfield Paper Mills of Messrs. James William Marshall & Co., of Bolton. The explosion took place in the revolver or kier house, which is a building about 30 yards long by about 12 yards wide, and which is completely wrecked. The force of the explosion was exceedingly great, the roof being lifted some yards into the air, and falling back with a crash into the building, whilst evidence of the violence of the explosion can be seen in all directions. The cause of the explosion is as yet a perfect mystery, as the work was proceeding exactly as usual, and steam pressure was not above normal. Seven or eight persons were in the building at the time, all of whom suffer from shock, and six who are suffering from bruises also. After the explosion a rescue party was immediately formed, a doctor sent for, and the injured extracted from the ruins, and sent to the hospital. Happily there were no fatalities.

Mr. Thomas Southworth, Clerk of Forestry in the Ontario Crown Lands Department, has just issued his annual report for 1895. Dealing with questions of more immediate interest to our readers, Mr. Southworth says:—"The spruce forests of Ontario are of vast extent and stretch to the far north surrounding Hudson's Bay. Many of these northern forests are composed exclusively of spruce trees, growing so densely that, although very old, they do not in some sections attain a diameter that would make them available for lumber. Until the rapid strides of pulp industry drew attention to this raw material awaiting the future demand, these forests were not largely taken into account in the stock-taking of the province. This is now changed, however, and spruce rivals the great white pine in the value to the state. It is now pretty generally conceded that Canada has the largest supply of spruce, the great paper-making material in the world. As the supply in the United States becomes exhausted there can be no doubt that the spruce forests of Ontario will prove a source of wealth to the province, the extent of which it is difficult to estimate."

MR. A. LANGLEY (Euston Press), addressing a meeting under the auspices of the Master Printers of South-East London on the 17th ult., referred to an interesting address on "The Paper Situation," by Mr. A. W. Foster, secretary of the Paper-makers' Association, and recommended it to all his hearers. He (Mr. Langley) said that about 150 paper agents had started business during the war in the City of London. When they heard of paper being charged out at 6d. a pound in the mill, and without leaving the mill it was sold out to a printer at 1s. 9d., by a profiteer, they began to realise that there were more fools in the printing industry than they had ever dreamed of. Paper-makers, he said, had been doing very well, but he thought they should look elsewhere than to the mills for the profiteers.



Q We cannot tell you what we can do without seeing your plant, but we are pretty safe in saying that a "Bennis" machine stoker will give you from 20% to 30% more steam than any system of hand firing or natural draught stokers and without smoke, dust or grit. Our advice and experience are at your disposal for the asking.

Let a Bennis Engineer come and investigate your Fuel Problems

THIS service costs you nothing and you will receive a fair and square report stating exactly what can be done to render your boiler plant more efficient or more economical. At least write for information. Fully illustrated and descriptive catalogues sent post free on request.

ED. BENNIS & CO. LTD.
LITTLE HULTON · BOLTON
and 28 Victoria St., London, S.W.1

TORP BRUGS A/S Fredriksstad, Norway



Highest-
Class

PURE KRAFT PAPER M.G & Unglazed D/C 16 lbs and up

WIDTH OF (For M.G. 103 ins.
MACHINES (For Unglazed. 103 and 120 ins.

Representative for Mr. T. V. OLSEN, Lambert House, 10/12, Ludgate Hill, London, E.C.
Sole Agent for the United Kingdom and Ireland.

GOLF—PAPER BEATS PULP.

A Golf Tournament between Pulp Merchants and Paper-makers of the London district was held on June 30 at the Temple Club, Maidenhead, the event proving an unqualified success.

The Pulp merchants, who were the challengers, lost in the singles by $5\frac{1}{2}$ points to $3\frac{1}{2}$, and in the Foursomes by 3 to 1. Paper-makers therefore won on the day by the substantial margin of $8\frac{1}{2}$ to $4\frac{1}{2}$. After the day's play the teams were the guests of Mr. Hall Caine for tea at his residence at The Thicket, Maidenhead.

The Paper-makers' team was: Mr. G. H. Hedley, Mr. F. A. Skerratt (Thames Paper Co.), Mr. F. G. Hawdon (John Dickinson & Co.), Mr. C. H. Sanguinetti (British Paper Co.), Mr. T. T. Mackenzie (Thos. Owen & Co.), Mr. J. L. White (A. M. Peebles & Son), Mr. D. Clapperton (Wolvercote Paper Mills).

Pulp Merchants: Messrs. G. R. Hall Caine, A. S. Batchelor, N. H. Leander, Geo. Buchanan, W. H. Palmer, E. C. Lait, R. J. Triggs, L. G. Bratt and W. Greenhalgh. Appended we give the full results:—

SINGLES.		Paper	Pulp
Hall Caine and Hedley (all square)	$\frac{1}{2}$	$\frac{1}{2}$	
Skerratt beat Batchelor	...	1	0
Leander beat Hawdon	...	0	1
Denson beat Buchanan	...	1	0
Raynham beat Palmer	...	1	0
Triggs beat Mackenzie	...	0	1
Lait beat Sanguinetti	...	0	1
White beat Bratt	...	1	0
Clapperton beat Greenhalgh	...	1	0

FOURSOMES.		Paper	Pulp
Hall Caine and Batchelor beat Hedley and Skerratt	...	0	1
Denson and Raynham beat Buchanan and Palmer	...	1	0
Hawdon and Sanguinetti beat Leander and Lait	...	1	0
White and Mackenzie beat Bratt and Triggs	...	1	0
Total scores:		3	1

Total scores: Paper $8\frac{1}{2}$; Pulp $4\frac{1}{2}$.

THE PAPER FAMINE.

PROSPECTS OF SEVERE SHORTAGE ON PACIFIC SEABOARD.

The Vancouver correspondent of the *Times* says:—

"All newspaper from San Francisco to Alaska will face a serious crisis within the next few months owing to a lack of paper if the fuel oil famine which is prophesied comes to pass. The Pacific newspapers are wholly dependent on the mills at Ocean Falls and on the Powell River, British Columbia.

These mills, which produce approximately 100,000 tons per year, have been notified from California that no more cargoes of oil are available for export after the present supplies are exhausted. Months must elapse before the plants can be converted for coal burning. Import from Eastern Canada is out of the question. Already the British Columbia mills have been importuned to lend 5,000 tons of newspaper to Middle West papers. Australia, which takes approximately 15,000 tons of paper from this province each year, will also be affected.



1. MR. R. J. TRIGGS, MR. MACDONALD, AND MR. J. L. WHITE. 2. MR. HEDLEY WATCHING MR. G. R. HALL CAINE'S STROKE. 3. AT "THE THICKET"—MRS. CAINE AND MR. RAYNHAM. 4. MR. PALMER, MR. RAYNHAM, MR. PERCY DENSON, AND MR. G. BUCHANAN.

EBURITE PAPER CO LTD

AMBERLEY WHARF,
PADDINGTON, W. 9.

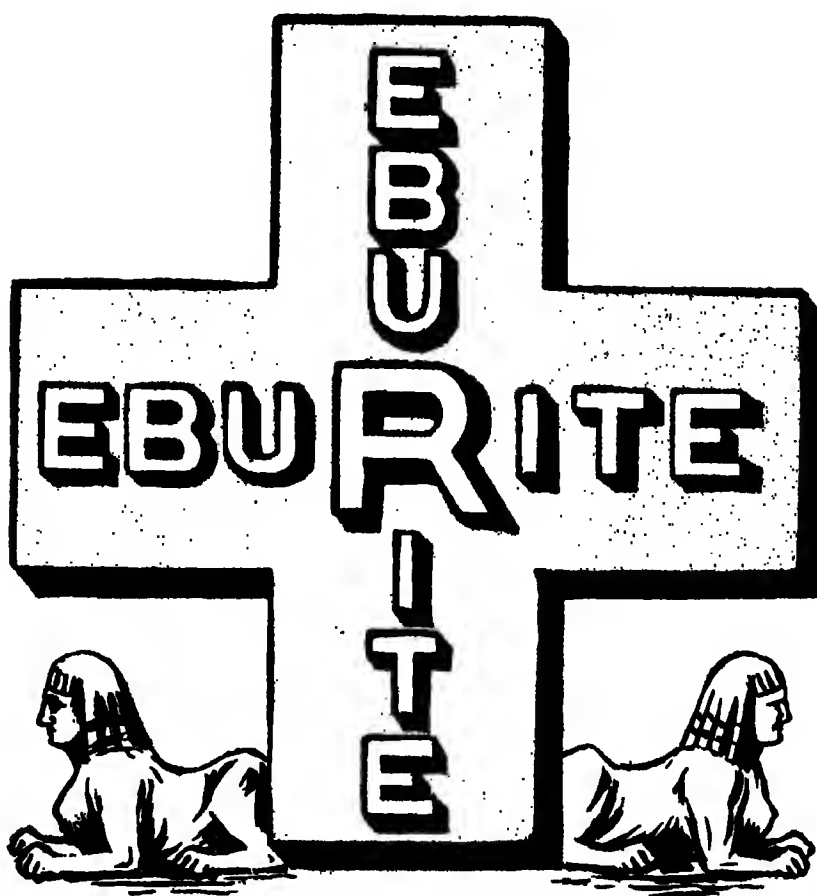
WAXED PAPERS

„ Pieces
„ Parchments
„ Tissues

MANUFACTURERS

CORRUGATED PAPER

„ Boxes
„ Cartons
„ Rolls
„ Pieces
„ Greaseproof



FANCY PAPERS

Crinkled Papers
Crepe Papers
Shelf Papers
Shavings

EBURITE PAPER CO LTD

AMBERLEY WHARF,
PADDINGTON, W. 9

THE MARKETS.

(For Wood Pulp Markets see page 202.)

ESPARTO.

Messrs. Ide & Christie's Monthly Circular, dated July 15, 1920, states:—A return showing the registered quantity and value of Esparto Grass imported into the United Kingdom during the month of May, 1920:—

Date.	Port.	Vessel.	Place Whence.	Ton
April 24	London	"Gerfrid"	Sfax	300
May 1	"	"Swinge"	Oran	50
" 4	"	"Gerfrid"	"	494
" 3	"	"	Sfax	405
" 4	"	"	"	907
" 5	"	"	Oran	514
" 21	"	"Mollette"	Algiers	12
" 28	"	"Violette"	Oran	28
" 14	"	"City of Smyrna"	Algiers	30
" 6	Grangem'th	"Baron Kelvin"	Almoina	1,480
" 19	Liverpool	"Pandia A Ralli"	Sfax	1,237
" 26	"	"Nautaven"	Almeria	2
April 22	Snoderland	"Islandia"	Sfax	14
May 20	Preston	"Hans Gude"	Arzew	881
" 14	Aberdeen	"Thrasy-voulos"	Sfax	1,736
" 19	Glasgow	"Otto Kalthoff"	Aguilas	420
" 17	"	"	"	688
" 17	"	"	Sfax	1,101
May 26	"	"Nautwen"	Almeria	1,700
" 26	"	"Kaipathos"	Oran	070
" 26	"	"	"	20
" 5	"	"Schwinge"	Almeria	905
" 24	Leith	"Benalder"	"	400
" 24	"	"	"	1,600
Mar. 29	"	"Bellowria"	Arzew	15
" 29	"	"	"	14
April 30	"	"Indianola"	Bona	216
May 15	"	"Cosmor Volga"	Sfax	2,242
" 21	"	"Petrograd"	Bona	868

CURRENT PRICES F.O.B. SHIPPING PORTS.

	£	s.	d.	£	s.	d.
Oran, fair to good	12	0	0	14	0	0
first quality	12	0	0	14	0	0
Bona & Philippeville, gl. av	12	0	0	14	0	0
first quality	12	0	0	14	0	0
Sfax and Gabes	12	0	0	14	0	0
Tripoli, fair average	12	0	0	14	0	0
hand-picked	12	0	0	14	0	0

HOME RAGS.

LONDON.—Trade is at the moment quiet. Prices remain about the same, with the exception of one or two of the lower grades of rags. Mills appear to have plenty of orders on their books and business is expected to revive shortly.

Fines (selected)	per cwt.	46s. od.	to 50 0
Outshots (selected)	"	34s. od.	" 36 0
Seconds (selected)	"	28s. od.	" 30 0
Seconds (country)	"	20s. od.	" 22 0
Thirds	"	—	" 9 0
Prints (old)	"	—	" 16 0
" dark	"	—	" 8 0
No. 1, Canvas	"	40s. od.	" 44 0
" 2, "	"	30s. od.	" 34 0
" 3, "	"	16s. od.	" 20 0
Common Jute Rope	"	14s. od.	" 16 6
Clean Gunny	"	12s. od.	" 14 0

EDINBURGH.—Market conditions are practically unaltered. There is a good demand for paper-making material and prices are firm.

FOREIGN RAGS.

LONDON.—Prices remain practically unchanged.

No. 1 White Linens	per cwt.	£3 5 0 to £4 0 0
--------------------	----------	------------------

No. 2 White Linens	per cwt.	£2 10 0 to £3 0 0
" 3 " "	"	2 0 0 " 2 10 0
" 1 White Cottons	"	2 10 0 " 2 15 0
" 2 White Cottons	"	2 5 0 " 2 10 0
" 3 " "	"	1 10 0 " 1 15 0
Old Grey Linens	per cwt.	£3 5 0 to —
Coloured Cottons	"	1 6 0 " —
Housecloths	"	0 18 0 " —

CHEMICALS.

Business has, on the whole, been rather quiet, but there have been indications of improvement.

Alum, best lump, in tierces F.O.B., at makers' works	ton	£17 10 0
Do., ground in bags	"	18 0 0
Alumina, Sulphate of, 14 per cent.	"	17 0 0
Bicarbonate of Soda, F.O.R.	£9	to 11 0 0
Ammonia Alkali	£7	to 8 0 0
Bleaching Powder, 35 per cent., carriage paid	"	25 0 0
Caustic Soda, white, 70 per cent. (net), carriage paid	"	29 0 0
Caustic Soda, white, 60 per cent. (net), carriage paid	£22	to 28 0 0
Soda, Crystals, bags	(delivered)	6 0 0
Potash Bichromate	lb.	0 2 2
Potash, Yellow Prussiate	"	0 2 0
Soda Bichromate	"	0 1 0
" Prussiate	"	0 1 5
Sulphur (Rock Brimstone)	ton	22 0 0
" (Flowers)	"	24 0 0
" (Roll Brimstone)	"	23 0 0
White Lead (English)	"	100 0 0
Chlorate of Potash, in kegs, F.O.B.	lb.	0 0 11 1/2
" Soda	"	0 0 5 1/2

MINERALS, ETC.

Prices remain at last month's levels.

Ochres, English and Irish	ton	£13 0 0*
Umbers (Brown and Green Shade)	"	11 0 0
Reds, Venetian	"	12 10 0
" Turkey	"	62 10 0
*Other prices according to shade, quantity, and quality.		
Black, Mineral	ton	£10 0 0
" Carbon (pure)	"	195 0 0
Pulp, Black	"	32 0 0
Brown, Soluble (Crystals)	"	28 0 0
" " (Pulp)	"	11 10 0
Yellow, Imperial	cwt.	1 12 0
Blue Paste (pure)	"	24 0 0
Yellows, Lemon, Orange (pure)	"	4 10 0
Mineral White, Superior No. 1	ton	3 1 0
" " " " 2	"	2 0 0
" " " " 3	"	1 8 6
Barytes, Best White	"	15 0 0

All F.O.R. Makers' Works, net.

China Clay of various qualities for all purposes; prices from 35s. to about 75s. per ton f.o.b. Cornwall.

SIZING MATERIALS.

Fine Skin Glue	cwt.	£8 10 0 to £10 0 0
Common Glue	"	£7 10 0

There is a good export demand for Glue, which, with a Home Trade quite brisk, rather tends to harden values.

ROSIN.

The Rosin market is firmer since our last issue, owing to the domestic demand in the United States, particularly for middle grades. Quotations up to a recent date are:—"B," 45s.; "F," 56s.; "G," 56s.; London usual terms and conditions.

JAMES BERTRAM & SON, Ltd.,

Leith Walk,
EDINBURGH.

Speciality :

PAPERMAKING MACHINERY.



OUR PATENT ROTARY DRUM STRAINER

is the best apparatus now at work. It is absolutely noiseless, works in oil, and needs no attention and few repairs. Stroke can be regulated while at work. Over 200 now running with great success.

Telegrams : "BERTRAM, LEITH."

Telephone : No. 521, LEITH.

FINANCE.

Paper shares are still in demand, and several show an advance in the market. The new debenture of the Imperial Paper Mills were an active and strong market, being finally quoted at 2-2½ premium.

Bury Paper-Making Co., Ltd., have declared an interim dividend for half-year ended May 29, at rate of 15 per cent. per annum on ordinary, free of tax.

The directors of Penman's, Ltd., have declared the following dividends for quarter ending July 31, viz.:—1½ per cent. on preferred stock, payable on August 2, to shareholders of record July 21, and 2 per cent. on common stock payable on August 16, to shareholders of record August 5.

The directors of the St. Nents Paper Mill declare a net profit, after providing depreciation of lease and machinery, managing directors' remuneration and excess profits duty, amounting to £7,135; to this figure must be added balance brought forward of £22,018, less bonus issue of ordinary shares, £15,000 final dividend of 10 per cent. free of tax, making available for distribution £8,836. Directors recommend final dividend of 10s. per share, free of tax, and that balance of £4,336 be carried forward.

The directors of Spicer Bros., have recommended payment of dividend at rate of 5 per cent. per annum upon the preference and (with interim dividend) 1½ per cent. per annum upon ordinary. They further recommend writing off whole of the goodwill, £30,180, adding to general reserve £30,000, and carrying forward £90,328. During the six years 1915-20 dividends to amount of 5½ per cent. have been paid, including 12½ per cent. each year for 1918 and 1919.

The accounts of C. Arthur Pearson for the year to May 31 last show a net profit of £37,500, or a decline of £4,000, compared with the previous year, but, the amount brought forward being £1,200 more than a year ago, the resulting available balance shows a gain of £1,200 at £78,200. The dividend on the ordinary shares is maintained at 10 per cent., and £5,000 is again transferred to reserve, which now stands at £32,500, while £1,500, against nil, is set aside for a pension scheme, leaving £40,500, as compared with £40,700, to be carried forward.

The directors of the Guard Bridge Paper Co., Ltd., have declared a dividend of 15s. per share, free of tax, on the ordinary shares, which is the same as the corresponding period of last year.

Including £90,800 brought in, the accounts of Spicer Brothers, Ltd., for the twelve months to March 31 last, show an available balance of £180,261, an increase of £52,895 as compared with the preceding year, after deducting debenture interest and the interim dividends on the preference and ordinary shares, absorbing £20,000. The dividend on the ordinary shares is advanced from 12½ per cent. to 14 per cent. for the year. It is proposed to add £30,000, or double the amount of the previous year's allocation to general reserve, and to write off the whole of the goodwill, £30,180, leaving £90,328 to be carried forward.

The directors of Mather & Platt have declared an interim dividend on ordinary for the half year ending June 30 of 3 per cent. free of tax, on capital as increased in February last, compared with 5 per cent., less tax, paid last year.

The report of the directors of Edward Lloyd, Ltd., shows that the profits for the year, after allowing for depreciation and making provision for bad and doubtful debts, estimated Excess Profits Duty, Income Tax and contingencies, amount to £223,032 11s. 11d., making with the balance brought forward from the previous year, £52,690 4s. 11d., a total of £275,722 16s. 10d. From this the following deductions are made: Interest on pension account, directors' and auditors' fees, head office and transfer office expenses, £5,121 0s. 10d.; dividend on the preference shares for the year to December 31, 1919, £37,125; amount carried to reserve, £20,000; interim dividend on the ordinary shares at the rate of one shilling per share (free of income tax), paid January 26, 1920, £30,000. There thus remains a balance of £183,476 10s., from which the directors recommend a final dividend for the year on the ordinary shares at the rate of one shilling and ninepence per share (free of income tax), making 13½ per cent. for the year, amounting to £52,500, and the carrying forward to the next account of £130,976 10s. The profits for the year show an increase of £45,091 18s. 7d. over 1918, after making provision for income tax which has hitherto been included in company expenses. The directors to retire are Mr. Harry Lloyd and Mr. E. H. Raynham, and, being eligible, they will be proposed for re-election.

Amount of Shares.		Company.	Last Dividend.	Mean Price and Quotations.
1	1	Amalgamated Press 5% c.p.	5	15½
1	1	Annandale & Son, ordy.	10	24/0
5	5	Do. pref.	5	73/0
1	1	Associated Newspapers, ordy.	7	17/0
1	1	Becker & Co., Ltd. . .	15	33/0
1	1	Brunner, Mond & Co. . .	2/6	34/4½
7	10	Do. 7% cum. pref.	7	10½
7	7	Bury Paper Co., Ltd., ordy.	15	13½
5	5	Burnley Paper Co., Ltd. . .	20/	15 20
1	1	Castner-Kellner Alkali . .	4½	62/6
10	10	Cassell & Co. . .	8	15/0
1	1	Darwen Paper Co., Ltd., "C"	7½	12/6-2 2½
1	1	Dickinson (J.) & Co., Ltd. only.	10	26/6
Stk.	100	Do. 5% cum. pref.	5	70
Stk.	100	Do. 4½% + Mt. Db. Rd., all pd.	—	62/6
10	10	East Lancashire Paper Co. . .	10	20
10	10	Do. 6% pref.	10 & 5	22
5	5	Do. bonus	5	5-5½
1	1	Electro Bleach & By Products Co. 7% pref.	7	22
5	5	Guardbridge Paper Co., Ltd.	12-6	10-10½
Stk.	100	Hartlepool Paper Mills, ord.	—	27½
1	1	Levinstein 4½ def.	—	92½
1	1	Lloyd (Ed.) 5½% cum. pref.	5½	17/6
1	1	Marsden (Chas.) & Sons ord.	0	20/6
1	1	Do. 7½% part. pref.	0	22/6
1	1	Newnes (George) ord.	15	1-½
1	1	North of Ireland Paper Co.	12½ & 5	3½
10	10	Olive Bros. . .	12½ & 5	14-15
10	8	Do. fully paid.	5	9½
5	4	Do. pref.	10	5½
5	5	Olive & Partington 5% pref.	5	33-3½
1	1	Owen (T.) & Co. 6% pref.	6	15/0
1	1	Do. ordy.	20	30/0
5	1	Pearson (C.A.) 5½% cum. pref.	—	58/0
5	5	Peelies (A. M.) & Son . .	5 & 4	6
5	5	Do. cum. pref.	5	2½-3½
Stk.	5	Do. 5½% debts.	5½	91½
5	100	Ramsbottom Paper ordy.	25	10/6
1	3	Do. 5% pref.	—	10/6
Stk.	1	Reed (A. E.) 4½% 1st mort. deb. red.	4½	65
1	1	Reed (A. E.) 5½% cum. pref.	5½	14/0-15/7½
5	4½	Roach Bridge Paper Co. . .	10	5½ 6½
4	4	Salt Union ordy. . .	3/0	20/1½
6	6	Do. 7% cum. pref.	3/0	21/0
Stk.	100	Do. 1st mort. debts.	4½	72
Stk.	100	Do. "B" do.	4½	66
10	10	Spicer Bros., 5% cum. pref.	5	7
5	5	St. Nents Paper Mill Co., Ltd.	15/0	7½
5	3	Star Paper Mill Co., Ltd. (Feniscotes) ordy.	20	25/0
Stk.	100	Do. 10% cum. pref.	10	4½
10	10	Do. 4½% debts.	4½	80
1	1	Townsend Hook & Co. Ltd.	7	8½
10	10	United Alkali Co., Ltd., ord.	4/0	27/0
10	10	Do. 7% cum. pref.	7/0	8½
Stk.	100	Do. 5% mort. debts.	5	71½
10	10	Waterlow & Sons . .	—	—
10	10	Do. 6½% non-cum. pref. ord.	5/0	10½-17½
10	10	Do. 4% cum. pref.	4/6	5½
10	10	Waterlow Bros. & Layton ord	17½	7
10	10	Do. pref.	50/0-7	6½
1	1	Wall Paper ordy. . .	10	19/10½
1	1	Do. 5% cum. pref.	5	13/0
1	1	Wall Paper def.	15	15/6
1	5	Wiggins Teape & Co. ord	—	24/10½
1	5	Do. 7% pref.	—	18/3

CODES.—A.B.C. 5th & 6th Edition. A.1. Western Union. Marconi. Watkiss. Bantleys. Private.

Telephone No.: City 7341
(5 lines)

Telegrams:
ODONTOID CENT LONDON

BECKER & CO., LIMITED,

34-40, Ludgate Hill, London, E.C.

And at MANCHESTER, PARIS, NEW YORK,
HALIFAX, N.S., CHRISTIANIA, STOCKHOLM, ETC.

THE LARGEST IMPORTERS OF WOOD PULP

AGENTS FOR

CHICOUTIMI PULP CO., Chicoutimi. Canadian
Hot Ground Spruce.
HALLIBAY SULPHITE CO., LTD. Port
Alfred, Quebec.
ST. LAWRENCE PULP & LUMBER CO., Gaspé,
Canada. High-Grade Sulphite Pulp.
RIORDON PULP & PAPER CO., Montreal.
Easy Bleaching Canadian Sulphite Pulp.

SISSIBOO PULP & POWER CO., LTD., Weymouth
Falls, N.S.
CLYDE RIVER PULP & PAPER CO., Clyde
River, N.S.
FORSMARK BRUK, Forsmark. Easy Bleaching
Soda Pulp.
SUNDS AKTIEBOLAG, Sundsvall.

AGENTS FOR EUROPE

FOR CROWN WILLIAMETTE SULPHITE CO., LTD., U.S.A.

THE Wood Pulp Maker.

Specially Representing the Interests of the Cellulose and
Wood Pulp Industry.

Vol. LX. No. 2.

AUGUST 2, 1920.

[ALL RIGHTS RESERVED.]

EMPIRE TIMBER EXHIBITION.

AN INTERVIEW ON CANADIAN WOOD PULP.

SPEAKING at the opening of the Empire Timber Exhibition, which was held at Holland Park Skating Rink last month, Lord Selborne emphasised the immense importance of developing the growth of timber. Those who ran newspapers, said he, knew that there was a likelihood of a shortage of timber for the world's consumption. Timber, although a crop, was not one that could be realised in a year, or even 10 years, and that was what made it such an unprofitable speculation. Before the war the annual consumption of timber in this country was 35 millions sterling, and of this 90 per cent. was imported. English and Scottish forestry required to be remodelled and reorganised to meet our present needs. This would beautify the land, find employment for a fine race of countrymen, and insure against the national risk of a scarcity of timber.

WOOD PULP.

An interesting collection of wood-pulp was displayed at the Canadian exhibit. Erected in the centre of the stall was a triangular stand which contained a large variety of samples of wood pulp. The three sides of the stand were allocated to groundwood pulp, sulphite pulp and kraft pulp respectively. Each particular side was sub-divided into three sections and in each were shown the raw material, the rough product, and the finished article of the pulp it served to demonstrate. A number of illuminated photographs, illustrating the process of manufacturing pulp, etc., made the stand an attractive feature and commanded much public attention.

Speaking to our representative, the official in charge, in reply to a question, said that the papermaker would in the near future have a host of rivals to deal with in the market for wood pulp. There were numerous inventions being placed on the market, which would command the use of pulp in many directions, and it was his opinion that the papermaker would shortly feel a more acute shortage than that which existed at present. "So you fear there is a gloomy outlook for paper manufacturers?" said our representative. "I do," said he, and pointing to the stand said that there were many samples there which would substantiate his statement. Electrical conduits were already being manufactured from pulp on an unprecedented scale, and large factories were being built for the purpose of utilising pulp for the making of fibre ware. These two products were being made from sulphite pulp, while kraft pulp proved to be the rough product of twine

and kraft tape gum. Continuing, he said that as pulp was being used in these cases as a substitute for hardware and leather, the manufacturers could naturally afford to pay a higher price than paper manufacturers.

In reply to a further question as to whether he expected a pulp shortage, he replied with an emphatic "No." "But," said he, "if there is to be a shortage at all it will be a shortage of factories for making wood pulp. A large number are already being built in Canada, but with American capital, and even these will not be sufficient to cope with the coming great demand. I wish you would, through the medium of your valuable paper, impress upon British financiers the necessity of British capital to build and run those factories," was his parting message, and then, said he, the British paper market will benefit considerably.

There was also an interesting exhibition of pulpwood in the Newfoundland section, under the auspices of the Anglo-Newfoundland Development Co. There was a large variety of various grades of pulpwood, and two reels of newsprint which were manufactured for the *Daily Mail* and *Daily Mirror*.

In the British East Africa Section samples were shown of East African bamboo for the manufacture of pulp and paper, and it was hoped also to show specimens of the paper made from this novel raw material. Many hundreds of square miles in the East Africa Protectorate are covered with this bamboo, and arrangements have been made by the Imperial Institute for technical trials of the material by paper manufacturers in this country in order to determine the suitability of the bamboos for paper-making. It has been announced that bamboo pulp is now also being manufactured in Burmah.

INDIAN FORESTRY.

With reference to the forests of India, note may be made of the fact that, concerned as the Forest Research Institute at Dehra Dun is with the advancement of scientific forest management, it has not been able to keep pace with the demands made on its staff and equipment by the recent industrial development of the country and the rapid expansion in the activities of the Indian Forest Service. It is also of interest to note that the state forestry of India covers no less than 250,000 square miles, and comprises more than 23 per cent. of the total area of India. The Institute at Dehra Dun has made certain proposals for the

expansion of the research work, and the staff for this purpose, when fully recruited, will include some 40 officers and will be under the control of an officer of the rank of Chief Conservator. It will consist partly of forest officers and partly of extra departmental specialists for research, in connection with the seasoning, testing, and preservation of timber, the technology of wood pulp and other cellulose manufactures and tanning substances, as well as in the purely scientific branches.

The Beaver Board Co., Ltd., exhibited samples of the boards, which are manufactured from pure spruce wood pulp. Built of four-ply, beaver board is cheaper than wood and is used extensively for a variety of decorative and useful purposes, of which waterproof characteristics render it especially applicable. The boards are manufactured at Thornold, Canada.

POSSIBILITIES OF PAPERMAKING IN AUSTRALIA.

COMMONWEALTH'S HUGE PAPER BILL.

"The newsprint manufactured by the paper-mills of the world is not sufficient to meet the world's demand, and consequently a world shortage is likely to prevail for the next two years." This information was given to a meeting of Pressmen at the Millions Club, Sydney, Australia, recently.

The chair was occupied by Mr. Wm. Brooks, M.L.C., who said that the manufacture of paper in Australia was of the utmost importance to the Commonwealth. It had been frequently and confidently asserted that it was impracticable to manufacture paper in the country and no serious action had been taken to question the accuracy of this statement. The result was that paper was dear and exceedingly hard to procure, even when the price was paid. The newspapers and periodicals of Australia required over 70,000 tons of newsprint annually, and the present prices on that quantity represented an increase of over £5,000,000, as compared with pre-war rates. That was a startling figure in itself, but the paper required for manufacturing bags and other items represented a further increase of £5,000,000. In other words, the Australian paper bill was on the same quantity £10,000,000 more than it was in 1914. The Government's experiments had shown that they had the materials to make good paper in Australia, and with proper Government encouragement he felt sure that the greater portion of Australian paper requirements could be supplied within the borders of the continent.

Mr. W. G. Conley, general manager for John Bairtax and Sons, Ltd., referred to the experience of paper users under the Controller during the last year of the war and said that control would be of no benefit under existing conditions for the simple reason that there was a world shortage of paper. The possible consumption was from 25 per cent. to 30 per cent. greater than the world's production, and competition sent up the price. Regarding the possibilities of paper manufacture in the Commonwealth, he said that experiments had been going on since 1907. The committee, of which he was a member, were satisfied of the practicability of manufacturing paper in Australia, but many difficulties had yet to be solved, and they would soon be making a demand from the State Treasurer for £2,000 or £3,000 to continue experiments. It had been shown that paper could be made from various Australian grasses and waste products, but the most satisfactory results for newsprint were received from the pulp of a special kind of red gum. This was growing in a forest near Tumut, where there was a good water supply, and the committee were endeavouring to obtain a marketable pulp from it. But even if the Government gave them everything they asked for it would be at least three years before a reel of paper could be manufactured. In the

meantime there were a number of complicated problems to solve. Five or six syndicates were trying to get control of the raw material, but the paper users were averse to any syndicate having control of the paper supplies of Australia.

Mr. T. M. Shakespeare, secretary of the Country Press Association, said that during the war Great Britain cut down supplies to about one-sixth of the ordinary, and France did the same. However, at present the Allies and belligerent countries were all demanding paper, and the world's supplies for the next two years had been practically cornered by American speculators. Paper being sold at Australia at £76 per ton had been traced through five or six different agents to the manufacturer, who sold at £26 per ton. Sweden and Norway were the only countries exporting paper and pulp, and their supplies for the next 18 months had been cornered, principally by Americans. Continuing, he said that the next two years would be critical ones in the newspaper and allied industries, and would require the most careful and economic management possible to pull through.

A resolution moved by Mr. W. G. Conley, and seconded by Mr. T. M. Shakespeare, to the effect "that the Millions Club expresses its strong approval of the fact that an inquiry into the resources of the State in respect to the manufacture of paper was now proceeding," was put to the meeting and carried unanimously.

A WOOD PULP SUBSTITUTE.

AN ENTERPRISING BURY FIRM.

While chemists and other experts interested in the paper trade are busily engaged in experimenting in various raw materials as a substitute for wood pulp, Messrs. Holt Bros., of Wharf Mills, Bury Bridge, Bury, have for some time past been supplying paper mills up and down the British Isles with bleached and unbleached cotton waste. The material, which of course is used for making the better-class papers, contains very good fibre, is hand-picked, and is free from all foreign matter. Mills using wood pulp have naturally not the necessary plant for dealing with this waste product. With a little alteration of their plant, however, it would enable them to do so, but those mills using machinery for rags, etc., could easily adapt it for this material which, by the way, is suitably packed in four hundredweight pressed bales. Further, the material contains only about seven to eight per cent. moisture, and under one per cent. of grease and mineral matter, while it is guaranteed 95 per cent. pure cellulose, thus giving 10 per cent. more usable fibre than is obtainable in the case of wood pulp. This fact will, no doubt, be taken into consideration when going into the question of cost as between cotton waste and wood pulp. It may be added that the plant erected for preparing this material cost about £80,000. It will thus be easily recognised that nothing has been spared or left undone to produce a suitable raw material, for converting into paper and thereby saving paper-makers as much trouble and expense as possible before coming to the beaters.

Messrs. Holt Bros., by the way, have long been closely connected with the cotton trade in all its varied branches. During the war both brothers did valuable service to the Government authorities, through their thorough technical knowledge of the uses of cotton. As a matter of fact, Mr. R. H. Holt was specially singled out for commendation by the War Ministry for his services in connection with the manufacture of gun cotton.

PAPER and paper goods to the value of £285,150 were imported into China during the last quarter. Japan's share amounted to £117,200 and that of the United States, £74,444, while the British imports under this heading only amounted to £2,942.

AUSTRALIAN NEWS.

ACCORDING to official returns paper to the value of £2,942,940 was imported into Australia during the nine months ended March 31 last, compared with £3,638,672 for the corresponding period of last year.

A CORRESPONDENT in the *Smiths Weekly* (Sydney, N.S.W.), states that some time ago he was handed a prescription written on State Parliament House paper, and the gold crest still remained on it. The watermark was "S. and L." "White linen made in U.S.A."

In an advertisement, the *Melbourne Age*, the well-known firm of John Dickinson & Co., draw the attention of printers and stationers to the fact that certain malicious reports have been spread round the trade to the effect that they are ceasing to carry stock. They declare that they still carry and will continue to carry stocks of a large range of papers.

SHAREHOLDERS of the Australian Paper Mills, Ltd. yesterday agreed to a resolution submitted by the Board for the increase of capital to £500,000, by the creation of 250,000 new shares at £1 each. The chairman, Mr. N. Brookes, stated that the directors considered the increase necessary in view of the great advance in the cost of raw materials and expansion of business. In reply to a shareholder, the chairman said that about half of the new capital would be called up, but the board had not yet considered the exact amount.

WRITING to the *Sydney Evening News*, a Sussex Street merchant, referring to the paper scarcity says: "It has occurred to me that a great deal of valuable paper material is being daily wasted in Sydney and suburbs through being sent to the destructor to be burnt. My firm in Sussex Street daily put out a large bagful of paper for the tip. The waste paper item from many offices is a much bigger item than mine. The aggregate if collected from all places of business in the city and suburbs, would be a substantial help in the way of paper material, and in my opinion would richly recoup the cost of collection."

STRINGENT economy in the use of paper is now the demand of the military authorities. It is pointed out that, owing to the world-wide shortage and the increasing difficulty of obtaining supplies, it is imperative that the closest supervision be exercised by the responsible officers, to prevent waste of any kind. It has repeatedly come under notice that an unnecessary number of carbon copies of memoranda and minutes are still being taken by some sections, and it has also been observed that foolscap sheets are frequently being used for memoranda of two or three lines, when a smaller sheet would meet requirements. These practices have been ordered to be discontinued immediately.

THE well-known firm of Galloways, Ltd. Knot Hill Iron Works, Manchester, have published an excellent catalogue which deals at length with their Uniflow Steam Engines. This type of engine is claiming many converts, and the fact that the six-cylinder engine represents the latest and most highly efficient type of modern the reciprocating steam engine is mainly responsible for this. It is claimed that a single-cylinder Uniflow condensing engine is more economical than a compound two-cylinder condensing engine.

PAPER SHORTAGE IN NEW ZEALAND.

A BARE MARKET.

NO less serious is the problem of the scarcity of newsprint in New Zealand than in any other country. The crisis has grown more acute lately, and is 50 per cent. worse than it was last December. The position during the war was that paper in abundance could be bought, but there was an increasing difficulty in finding ships to carry it. To-day the shipping is available but there is no paper for sale. Australian and New Zealand newspapers, because of the war, became almost entirely dependent upon the Canadian mills during 1919 and looked to them to provide supplies for 1920. Just when contracts were ready for signature, however, the shortage of newsprint in North America became apparent. American papers, having largely increased their prices and their advertising rates, were able to pay higher prices for their materials, and the exchange rate further gave them an enormous advantage over Australian and British competitors. Thus they had cut deeply into Canadian stocks, so that even Canadian papers were confronted with a possible famine. The Canadian manufacturer, compelled to sell in Canada by the Government at £17 per ton, naturally preferred to place his output in New York at £34 per ton.

The condition of the climbing market is best disclosed in a table issued in April of this year, setting forth actual quotations, and its significance may not be realised unless it is borne in mind that paper was landed, duty paid, in Australian and New Zealand ports, before the war, at £11 10s. per ton. These, according to available reports were the best prices offered.

	Per Ton.
1919.	£ s.
July 7	31 10
October 3	33 0
October 5	33 10
October 27	37 5
October 29	40 0
December 2	42 10
December 31	44 10
1920.	
January 15	47 10
January 18	51 5
January 20	60 0
January 23	72 0
February 1	75 0

Under these conditions it appears to be inevitable, says the *New Zealand Weekly News*, that the size of papers will be everywhere reduced, and the "rationing" of advertisers will become universal. A sharp rise in advertisement rates is also to be anticipated.

SUPPLIES OF ESPARTO FOR MID-LOTHIAN.

THE Edinburgh correspondent of the *Times* says that at the paper mills in Mid Lothian largely increased supplies of esparto grass have recently been obtained from North Africa and Spain, but even yet the quantity is much less than is necessary to keep the machinery fully employed. The paper-makers naturally welcome the new supply after the continuous shortage with which they have had to contend, but they are very cautious as yet regarding the effect on the market. They are in doubt as to whether further supplies will be forthcoming until the new crop begins to arrive in August. Not till the autumn will they be able to say with any degree of definiteness whether or not supplies in sufficient quantities will be available. The hope is entertained, however, that in a few months the position of the trade will be very much improved. The Mid Lothian manufacturers specialise in the better qualities of writing and printing paper; they do not produce much paper for newspapers.

THE WOOD PULP MARKETS

CHEMICAL.

LONDON.—In our last month's issue we stated that "markets remain difficult, and a tendency to hold off buying is still prevalent." This view has certainly been emphasised during the last few weeks, for consumers continue to fight shy of the market and the outlook is still uncertain, with prices showing no disposition to fall. First quality bleached sulphite is quoted up to £85, and easy bleaching up to £63, while strong sulphite remains at between £52 and £55, all c.i.f.

MECHANICAL.

LONDON.—Prices of mechanical pulp continue firm, and it is expected that they will evince no sign of decline for some time to come. A somewhat quieter demand has been experienced. Quotations for moist mechanical vary from £16 to £18 for prompt, according to quality, and the dry variety for prompt delivery is quoted at about £35 10s., both c.i.f.

CHEMICAL.

MANCHESTER. There is no market for this class of pulp. Prices quoted for prompt vary from 1,000 kr. upwards, but no buying is going on. Enquiries are said to be quite blank. Most of the mills are heavily stocked with shipments from last year's contracts.

MECHANICAL.

MANCHESTER.—A slump characterises the market so far as enquiries and offers are concerned. Several offers have been made at from £17 5s. to £18 10s., but no new business is being negotiated. The stocks at the mills are also very large at present, and the prospects are that very little business will be done before the end of September. Prices are inclined to advance, as other countries are buying at higher figures than the British mills are offering.

CHEMICAL.

NEW YORK.—Latest advices state that the chemical pulp market continues to be exceedingly strong. Trade is very brisk, and most grades are snapped up very quickly. An American authority states that, generally speaking, comparatively little chemical pulp from Scandinavia is available for New York, though some has been shipped to old customers in the States.

GERMANY AND PRESENT CONDITIONS.

A remarkable picture of the actual living conditions of the German people nineteen months after the cessation of hostilities was presented by Mr. A. G. Gardiner in an article published in a recent issue of *The Daily News*. Mr. Gardiner says: "The motor car has practically disappeared. There are a few taxis in the centre of Berlin, but the shortest ride costs a sovereign. Fares in the capital have been raised 800 per cent. and 1,000 per cent. in Hamburg."

Mr. Gardiner points out that the collapse in the value of the mark was in a large measure due to the flood of luxuries which at the close of the war came in through what is known as "the hole in the West" the occupied

MECHANICAL.

NEW YORK.—The strong demand for mechanical pulp continues unabated, and prices continue very high, having reached what one authority states as an "unprecedented high level." It is stated that transactions have been made at prices ranging up to \$150 a ton. The domestic output of mechanical pulp is reported to be not up to expectations. This is mainly attributed to low water conditions.

CHEMICAL.

GOTHENBURG. During the past month there has been little or no change in the chemical pulp market. Prices continue firm at high levels, and there continues to be a very strong demand for sulphite pulp for delivery next year.

MECHANICAL.

GOTHENBURG. There continues to be experienced an extremely brisk demand for mechanical pulp, and shipments have latterly been very heavy, especially to Great Britain and France. According to latest reports, however, the demand has become quieter, at any rate, temporarily.

CHEMICAL.

CHRISTIANIA.—Probably owing to the holidays the Norwegian chemical pulp market is exhibiting a quiet tone. During the early part of the month the market, however, was influenced by the American enquiries. *1 Farmand* states that consumers in the United States have concluded a number of contracts with Norwegian producers. It is stated that according to official statistics, the quantities of sulphite pulp shipped to America are not unimportant, but it is added that most of Norway's products has already gone, and will continue to go, to England.

MECHANICAL.

CHRISTIANIA.—The foregoing remarks apply equally to mechanical pulp, of which there is reported to be little that has not already been contracted for while of next year's output there have already been considerable sales. Prices continue firm at 330 krs. for moist and up to 700 krs. for "dry" mechanical.

territory over which the Customs could exercise no real control. They flooded the country, and the "Schiebers" (Profiteers) and others who could afford them bought them up voraciously.

"The 'hole in the West' has been closed, and luxuries have been shut out, but it is still possible for the very rich to get coffee at about 40s. a lb. and butter, surreptitiously, up to 60s. a lb. The population of Germany is to-day, it may be said, existing, as it has existed for four years, on potatoes and bread, eked out with a few vegetables and an occasional egg or scrap of meat. The prices of foodstuffs and clothing seem, indeed, almost prohibitive. Milk is forbidden for the healthy adult, and only the rich can afford condensed milk at £1 a tin. Profiteering is rampant."

BOARD OF TRADE RETURNS OF IMPORTS OF PAPER AND PAPER-MAKING MATERIALS FOR THE MONTHS OF JUNE, 1913, 1919 & 1920.

							QUANTITIES.			VALUES.		
							1913.	1919.	1920.	1913.	1919.	1920.
Imports of Paper—FOR PRINTING OR WRITING										£	£	£
On reels.	From Sweden ..	..	..	..	..	cwts.	38,309	61,268	—	21,005	90,043	—
	„ Norway ..	..	..	..	..	..	67,054	8,725	—	38,035	14,243	—
	„ Germany ..	..	..	..	..	..	12,400	—	—	8,727	—	—
	„ United States of America ..	..	..	..	..	..	735	8,342	—	430	13,711	—
	„ Newfoundland ..	..	..	..	..	..	106,680	—	—	52,113	—	—
	„ Other Countries ..	..	..	..	..	..	15,016	62,086	—	8,735	82,710	—
Total ..							240,374	140,421	—	130,335	207,337	—
Not on reels.	From Sweden ..	..	..	..	..	cwts.	12,544	2,716	—	8,266	6,318	—
	„ Norway ..	..	..	..	..	..	29,097	4,915	—	18,351	11,063	—
	„ Germany ..	..	..	..	..	..	23,523	—	—	21,978	—	—
	„ Belgium ..	..	..	..	..	..	9,340	319	—	8,303	1,784	—
	„ United States of America ..	..	..	..	..	..	2,772	3,460	—	6,363	17,059	—
	„ Other Countries ..	..	..	..	..	..	3,860	8,407	—	6,203	13,583	—
Total ..							81,145	19,717	—	60,464	50,407	—
PAPER, PRINTED:												
Hangings	From Germany ..	..	..	..	..	cwts.	1,935	—	—	4,272	—	—
	„ Belgium ..	..	..	..	..	..	703	—	—	1,750	—	—
	„ Other Countries ..	..	..	..	..	..	396	141	—	1,013	1,690	—
Total ..							3,034	141	—	7,035	1,690	—
Other printed or coated papers	From Germany ..	..	..	..	..	cwts.	4,852	—	—	12,131	—	—
	„ Belgium ..	..	..	..	..	..	3,021	188	—	6,316	1,243	—
	„ France ..	..	..	..	..	..	279	19	—	1,067	567	—
	„ United States of America ..	..	..	..	..	..	753	1,346	—	2,612	6,126	—
	„ Other Countries ..	..	..	..	..	..	232	1,492	—	794	7,304	—
Total ..							9,137	3,015	—	23,820	15,300	—
Paper: Printing, not coated, and Writing Paper in Large Sheets:												
From	Sweden ..	..	..	..	..	cwts.	—	—	41,500	—	—	64,627
	„ Norway ..	..	..	..	..	..	—	—	85,702	—	—	200,759
	„ Germany ..	..	..	..	..	..	—	—	5,540	—	—	18,214
	„ Belgium ..	..	..	..	..	..	—	—	1,300	—	—	5,875
	„ United States of America ..	..	..	..	..	..	—	—	6,887	—	—	26,854
	„ Newfoundland ..	..	..	..	..	..	—	—	19,730	—	—	51,400
Total ..							—	—	109,955	—	—	260,458
Total ..							—	—	270,879	—	—	658,187
Packing and Wrapping, including Tissue Paper:												
From	Russia ..	..	..	..	..	cwts.	17,501	7,412	53,767	10,902	15,147	100,842
	„ Sweden ..	..	..	..	..	..	112,191	55,022	231,000	71,335	124,807	679,785
	„ Norway ..	..	..	..	..	..	80,903	44,267	99,033	56,048	101,554	295,623
	„ Germany ..	..	..	..	..	..	65,870	—	24,900	55,047	—	85,243
	„ Belgium ..	..	..	..	..	..	21,160	1,156	1,517	17,114	6,257	57,330
	„ Other Countries ..	..	..	..	..	..	22,102	11,319	51,341	18,448	35,517	163,311
Total ..							328,736	119,176	474,254	228,804	283,282	1,391,134
Coated Papers.	From Germany ..	..	..	..	..	cwts.	—	—	6,593	—	—	37,018
	„ Belgium ..	..	..	..	..	..	—	—	4,790	—	—	34,880
	„ France ..	..	..	..	..	..	—	—	2,173	—	—	18,600
	„ United States of America ..	..	..	..	..	..	—	—	845	—	—	7,946
	„ Other Countries ..	..	..	..	..	..	—	—	3,080	—	—	14,558
Total ..							—	—	17,471	—	—	113,611
STATIONERY ..							—	—	2,549	—	—	19,392
MILLBOARD, LEATHER BOARD, CARDBOARD, AND PASTEBOARD ..							104,140	86,069	201,250	51,326	135,611	301,215
STRAWBOARD ..							252,108	159,052	183,680	68,352	131,709	816,590
OTHER SORTS ..							15,062	6,254	37,928	42,070	36,000	226,855
Total Imports of Paper and Cardboard ..							1,034,636	533,875	1,840,411	621,806	861,351	3,586,984

**Board of Trade Returns of Imports of Paper and Paper-Making Materials for the
Months of June, 1913, 1919 & 1920 - continued.**

		QUANTITIES.			VALUES.		
		1913.	1919.	1920.	1913.	1919.	1920.
					£	£	£
Imports of Paper-making Materials :							
Pulp of Wood : Chemical : Dry, Bleached :							
From Russia	tons		25			900	
" Sweden		222	90	160	2,148	3,220	6,305
" Norway		871	748	1,119	9,845	26,949	52,700
" Germany		237			3,043		
" Other Countries		105	602	1,300	1,396	17,480	65,409
Total		1,498	1,455	2,579	16,432	48,549	124,564
Chemical : Dry, Unbleached :							
From Russia	tons	3,569	1,121	5,440	20,300	23,932	212,095
" Sweden		27,662	25,937	44,750	223,379	628,347	1,631,232
" Norway		5,613	4,770	8,685	47,121	118,448	303,542
" Germany		2,981		651	25,284		34,211
" Other Countries		774	3,438	4,105	6,254	81,501	205,803
Total		40,628	35,266	63,037	331,338	852,228	2,416,883
Total of Chemical Dry Pulp of Wood		42,126	36,721	68,216	347,770	900,777	2,541,447
Chemical : Wet	tons	1,846	137	17	6,000	1,662	148
Total of Chemical Pulp of Wood		43,972	36,858	68,233	353,770	902,439	2,541,595
Mechanical, Dry	tons	1,534	2,803	1,028	7,111	50,697	26,609
Mechanical, Wet :							
From Sweden	tons	12,535	18,455	17,500	23,312	151,615	306,003
" Norway		21,179	33,360	33,983	47,309	277,805	491,573
" Canada		6,710	3,270	9,070	15,147	20,160	100,450
" Other Countries		5,702	2,159	1,424	13,909	16,788	28,468
Total		46,216	57,250	62,886	99,767	472,488	1,025,494
Total of Mechanical Pulp of Wood		47,750	60,053	63,914	106,881	523,185	1,052,103
Total of Pulp of Wood		91,722	96,911	130,147	460,651	1,425,624	3,593,788
ESPARTO, AND OTHER VEGETABLE FIBRES, including WASTE :							
From Spain	tons	3,587	4,200	8,910	17,019	49,090	214,915
" Algeria		6,936	622	7,504	23,186	7,974	135,004
" Other Countries		6,495	520	8,882	21,218	6,678	176,911
Total		17,018	5,382	25,296	61,423	64,642	526,920
LINEN and COTTON RAGS	tons	2,253	509	1,161	23,304	13,606	41,534
PAPER-MAKING MATERIALS, not elsewhere specified		1,503	92	413	13,982	1,843	8,003
Total Values of Paper-making Materials					550,360	1,505,715	4,170,245
Imports of Chemicals : BLEACHING MATERIALS		13,855		2,271	3,394		7,230
IRON PYRITES (including Capreous Pyrites)		54,350	14,064	45,032	94,720	40,585	154,311
ROSIN		178,507	47,874	49,678	115,678	76,806	126,835
GLUE, SIZE, and GELATINE		18,500	3,432	9,575	38,734	31,648	85,050

NEW ZEALAND PAPER SHORTAGE.

AN acute scarcity of news-print paper is reported at New Zealand which is causing newspaper proprietors grave concern. The only paper procurable, its early delivery being problematical, is quoted at £95 per ton, compared with £11 10s. before the war. There are very little hopes held of any deliveries from Canada, while Scandinavian supplies are exceedingly small and uncertain. Newspaper

proprietors at a conference decided that the drastic curtailment of the size of the paper was imperative. The Government was also urged to remove the duty from Scandinavian paper until Canadian supplies were available in sufficiently reliable quantities.

The Newspapers' Association at Wellington held a meeting some time ago, when it was decided to form a sub-committee to make exhaustive inquiries into the possibilities of making news-print in the Dominion.

IF YOU ARE BUYING PAPER

COMMUNICATE WITH—

PARSONS TRADING COMPANY

HEAD OFFICE:

**Whitehall Building,
17, Battery Place, New York.**

CHIEF OFFICES FOR EUROPE

**Temple Bar House, 23/28, Fleet St.,
London, E.C.**

OTHER OFFICES:

**Sydney, Melbourne, Wellington,
Bombay, Adelaide, Stockholm,
Havana, Mexico City, Buenos Aires,
and Selling Representatives through-
out Latin America and the Far East.**

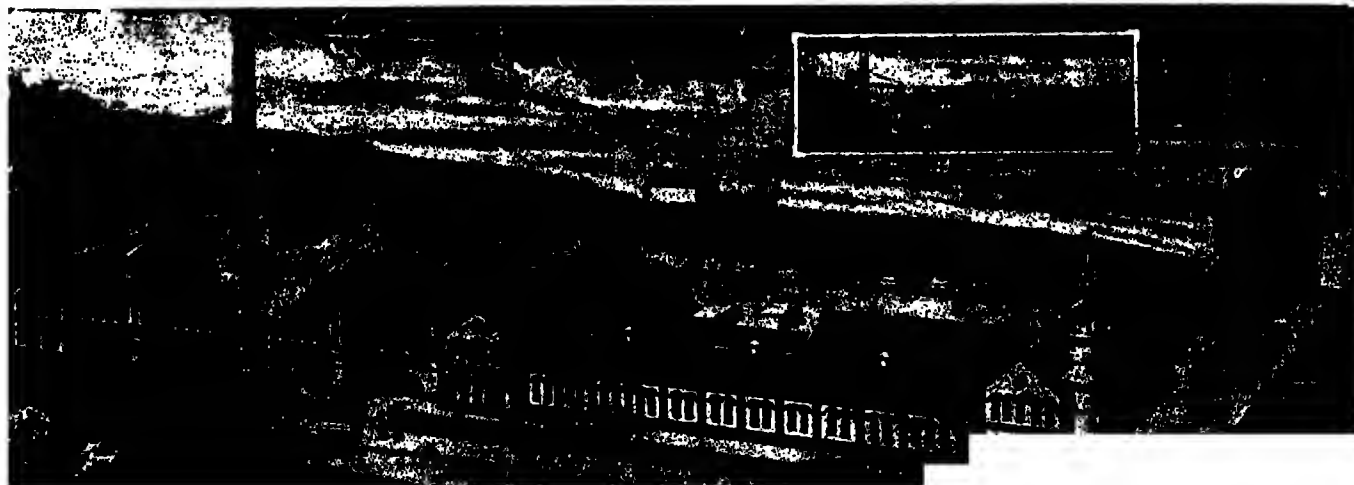
CABLE ADDRESS OF ALL OFFICES: "PARTRACOM."

Telegrams: "Pergamys, Drammen."

Aktieselskabet

PHÖNIX PAPIRFABRIK

DRAMMEN, NORWAY.



SPECIALITIES { **Thin Glazed and Unglazed Greaseproof
Manifold Papers. Bankpost.**

BOARD OF TRADE RETURNS OF EXPORTS OF PAPER AND PAPER-MAKING MATERIALS FOR THE MONTHS OF JUNE, 1913, 1919 & 1920.

						QUANTITIES.			VALUES.		
						1913.	1919.	1920.	1913.	1919.	1920.
Exports of British Paper :											
Printing not coated.	To France .. .. .	..	..	..	cwts.	8,041	20,689	8,750	£ 10,087	£ 89,811	£ 32,869
	" United States of America .. .. .	..	..	..	"	3,332	326	613	1,106	2,446	2,260
	" Other Foreign Countries .. .. .	..	..	..	"	30,010	15,130	24,178	33,107	50,175	100,401
	" British South Africa .. .. .	..	..	..	"	8,319	2,732	4,292	8,355	12,004	19,334
	" British India .. .. .	..	..	..	"	25,209	2,813	22,320	23,817	8,134	81,725
	" † Straits Settlements .. .. .	..	..	..	"	2,349	433	1,305	2,154	2,187	6,409
	" Ceylon .. .. .	..	..	..	"	2,239	91	3,110	2,189	490	11,297
	" Australia .. .. .	..	..	..	"	54,572	563	10,647	30,905	2,857	39,547
	" New Zealand .. .. .	..	..	..	"	9,793	861	1,300	9,064	3,181	5,775
	" Canada .. .. .	..	..	..	"	10,394	68	39	12,980	629	240
" Other British Possessions						3,164	1,214	3,054	3,282	5,117	13,403
Total						158,112	44,920	79,068	140,736	177,091	326,320
Writing paper in large sheets	To France .. .. .	..	..	..	cwts.	280	3,042	1,836	1,250	18,918	8,574
	" United States of America .. .. .	..	..	..	"	218	31	241	922	508	1,040
	" Other Foreign Countries .. .. .	..	..	..	"	2,714	3,925	2,736	8,830	31,540	19,595
	" British South Africa .. .. .	..	..	..	"	1,577	570	478	3,282	3,850	3,010
	" British India .. .. .	..	..	..	"	2,294	1,813	5,981	5,199	13,980	30,038
	" † Straits Settlements .. .. .	..	..	..	"	376	104	553	898	692	4,893
	" Ceylon .. .. .	..	..	..	"	272	75	381	473	540	2,318
	" Australia .. .. .	..	..	..	"	6,072	1,322	3,070	10,450	9,059	16,432
	" New Zealand .. .. .	..	..	..	"	1,700	148	1,278	2,731	542	6,818
	" Canada .. .. .	..	..	..	"	677	49	1	1,392	576	24
" Other British Possessions						870	449	976	2,198	3,303	5,815
Total						17,050	11,528	17,531	37,934	83,520	99,433
PACKING AND WRAPPING						61,539	13,086	25,809	31,553	30,835	60,549
TISSUE PAPER								1,068			13,262
COATED PAPERS : Printed and Embossed Paper Hangings						9,150	5,753	15,342	21,613	38,802	89,297
Other Sorts, except Waterproof Wrappings, Roofing Paper, and Sensitised Photographic Paper						2,355	1,366	3,814	10,626	24,374	39,003
ROOFING PAPER, Tarred and other											
STATIONERY : Envelopes, not including Box Stationery						3,026	2,045	4,281	6,688	10,975	30,908
Other sorts								11,967			164,065
Total						3,026	2,045	16,248	6,688	16,975	195,063
PAPER BAGS						4,368	744	1,755	4,800	3,790	8,943
BOXES and CARTONS of PAPER and CARDBOARD (including FOLDING BOXES)						4,089	703	2,521	6,486	4,878	19,543
MILBOARD, STRAWBOARD, CARDBOARD, &c.						10,208	5,738	5,587	9,547	20,743	22,667
PLAYING CARDS						1,092	5,282	3,337	2,226	2,985	2,093
						291	132	87			
Other Manu- facturers of Paper not elsewhere specified.	To France .. .. .	..	..	..	cwts.	635	288	109	3,940	2,376	879
	" United States of America .. .. .	..	..	..	"	217	37	162	689	1,347	3,346
	" Other Foreign Countries .. .. .	..	..	..	"	2,384	2,496	3,000	4,848	17,140	24,169
	" British South Africa .. .. .	..	..	..	"	896	470	442	1,764	2,953	4,384
	" British East Indies .. .. .	..	..	..	"	681	428	1,181	1,180	3,209	10,490
	" Australia .. .. .	..	..	..	"	1,010	262	401	1,733	1,104	3,773
	" New Zealand .. .. .	..	..	..	"	527	62	301	799	882	2,044
	" Canada .. .. .	..	..	..	"	261	2	161	819	100	1,921
" Other British Possessions						240	352	464	360	3,603	4,194
Total						6,581	4,397	6,221	16,132	32,864	55,200
Total Exports of British-made Paper and Cardboard						277,031	90,392	175,621	294,041	436,857	940,374

† Including Federated Malay States and Labuan.

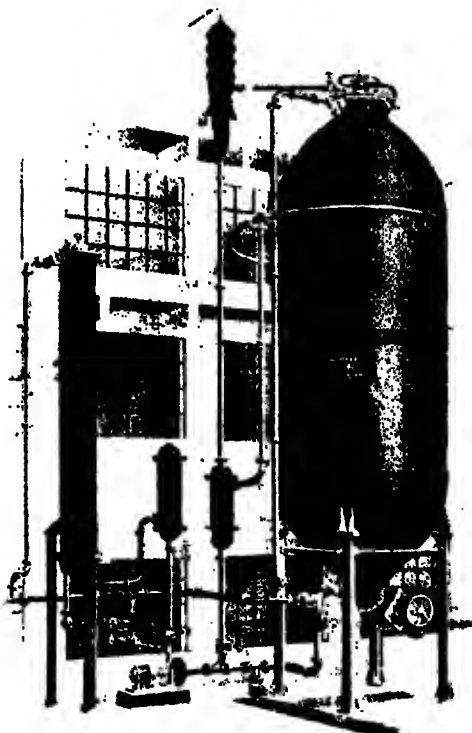
‡ Included Notepaper and other kinds of paper for writing, prior to 1920, now included in "Stationery, other Sorts"—same group.



Complete Equipments

FOR

PULP & PAPER MILLS



Boving & Co. have a special patented system for digestion for the production of chemical pulps, applicable to all classes of raw materials. The Boving system involves forced circulation of the liquor, external heating and gas separation. It effects great economies in fuel for heating and chemicals, and a large saving in time. Further, the quality and yield of pulp is greatly improved.

BOVING & Co., Ltd.

Head Office : 56 Kingsway, W.C.2

WORKS . . Stoke-on-Trent, Staffs

Branches and Representatives in

Manchester, Paris, Australasia, Japan, S. America, Canada, etc.



BOARD OF TRADE RETURNS OF EXPORTS OF PAPER AND PAPER-MAKING MATERIALS
FOR THE MONTHS OF JUNE 1913, 1919 & 1920.—continued.

	QUANTITIES.			VALUES.		
	1913.	1919.	1920.	1913.	1919.	1920.
Exports of Foreign and Colonial Paper and Boards :				£	£	£
FOR PRINTING OR WRITING: On reels cwt.	12,804	19	—	6,601	100	—
Not on reels "	7,192	61	—	5,697	403	—
PRINTED PAPER HANGINGS "	29	22	—	226	365	—
OTHER PRINTED or COATED PAPERS (except SENSITISED PHOTOGRAPHIC PAPER) "	98	18	—	707	230	—
PRINTING, not COATED, and WRITING PAPER in large sheets "	—	—	770	—	—	4,795
PACKING and WRAPPING, including TISSUE PAPER "	9,584	52	1,530	6,535	230	9,739
COATED PAPERS "	—	—	20	—	—	751
STATIONERY "	—	—	15	—	—	328
MILLBOARD, LEATHER BOARD, CARDBOARD and PASTEBOARD "	651	—	2,318	497	—	4,343
STRAWBOARD "	1,368	20	224	616	21	463
OTHER SORTS "	1,730	201	1,153	6,925	2,554	10,845
Total Exports of Foreign and Colonial Paper and Cardboard "	33,551	303	6,018	27,777	3,915	37,204
Exports, Foreign and Colonial, of :						
PULP OF WOOD: CHEMICAL: DRY tons	1,540	—	—	12,410	—	—
LINEN AND COTTON RAGS "	929	—	50	8,513	—	875
Total "	—	—	—	20,923	—	875
OTHER ARTICLES "	—	—	—	7,795	—	—
Total Value of Foreign and Colonial Paper-making Materials "	—	—	—	28,718	—	875

CENTRIFUGAL SEPARATORS.

FILM DEMONSTRATION AT VICKER'S HOUSE.

In order to illustrate the working and efficiency of the Centrifugal Separators now being placed on the market by Centrifugal Separators, Ltd., of 8, Idlesleigh House, Caxton Street, Westminster, S.W.1, an interesting demonstration by film was given at Vickers House, Westminster, on the 2nd ult., before a number of those interested, including members of the paper trade.

The separators have been manufactured by Messrs. Vickers, Ltd., under British patents granted to Mr. Gee in 1907, 1909, 1911, 1915, 1916, and 1917, and the inventor attended for the purpose of replying to any questions and supplying any information required. The film, which was photographed at Vickers' Works, was well produced, and the audience were given an excellent demonstration of the separator at work.

One of the first points that would be noted is that the machine is proportioned quite differently from the ordinary type of hydro-extractor. It has been assumed that a centrifugal drum or basket, especially when of the suspended type, must be of a squat or flywheel shape, and consequently it has been the rule that the depth of the drum should be about half diameter. In the centrifugal separator, this convention has been departed from and the depth of the drum is one and a half times the diameter. The first and most obvious advantage of this radical alteration in proportion is that the capacity of the machine in terms of recovered solids is increased to from three to four times that of the hydro extractor. It is also clear that the separating efficiency of a centrifuge depends on the intensity of the centrifugal force that can be developed and on the quantity of material on which the centrifugal force is being exerted. The drum of the centrifugal separator is kept proportionately small in diameter, so as to secure the greatest centrifugal force, and

it is lengthened in depth, so as to get the maximum efficiency in turns of the quantity of liquid constantly under treatment and to obtain the maximum capacity of charge of recovered solids per run. The operation of the separator is as follows:—The requisite speed of 2,000 revolutions a minute having been attained, the liquid, containing in suspension the solid matter to be separated, is fed in a steady stream through a suitable feed pipe. The centrifugal force generated by the rapid rotation causes the liquid to fly on the walls of the drum and distribute itself thereon, so that an inner wall of liquid is formed. This wall of liquid may attain a considerable thickness, and thus a head of liquid is created which brings about a considerable pressure on the filtering surface. As soon as the solid matter begins to agglomerate it is arrested by the filter, and thrown off by the centrifugal force to the wall of the drum, so that the filter cannot choke.

It is found that well over 90 per cent. of the solids is deposited on the walls of the drums, or rather on the removable lining plates.

A fact worthy of note is that Messrs. Vickers, Ltd., claim that a profit of £60 per day could be effected in a paper mill, if only the effluents which contain solids were filtered.

STRIKE AT DUTCH STRAWBOARD MILLS.

AN alarming strike was reported in Holland last month, when the employees of the Dutch Strawboard Mills ceased work. As a result, the following mills were affected:—Rudeland, Free, Britannia, Union Ceres, Erica, Neo, Cartono and Ons Belang. It was reported that two lighters had been completely destroyed by fire by the strikers. Conflicts took place with the authorities, in which bodies of soldiers and manœuvres were called upon to restore order. Workmen disposed to do any work were thrown into the water, owing to an outburst of what appears to be pure Bolshevism.





IMPORTANT

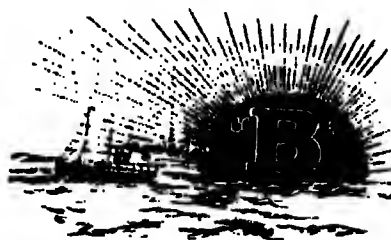
TO

Newspaper, Periodical and Magazine Proprietors,
Printers, Publishers, and all Users of Paper
throughout the World.

**BEFORE PLACING YOUR ORDERS APPLY TO US
FOR SAMPLES AND QUOTATIONS.**

W. V. Bowater & Sons,
Limited
*are Paper Makers, Agents, and
Wholesale and Export Paper Merchants.*

REGISTERED



TRADE MARK.

We specialise in "News," Glazed and Unglazed Coloured Printings
Machine Finished and Super-Calendered Printings, Coated and
Imitation Arts, Typewriting Papers, Art Covers, Cartridges, Writings,
M.G., Glazed and Unglazed Natures, Tissues, Sulphites, and Browns,
Cover Papers, Badami and Native Account Book Papers, and
Board of all descriptions and grades.

159, Queen Victoria Street, LONDON, E.C.4.

Cables: "SPARTEOLUS," LONDON.
Codes: A B C (5th Edition), Western-Union and Western-Union 5-letter Edition, and Bentley's.

WAREHOUSES AND WHARVES—

BOWATER'S WHARF, Commercial Road,
Lambeth, S.E.; and Worship Street, E.

MORDEN PAPER WORKS—

MORDEN WHARF, Greenwich, LONDON, S.E.;
and at Carrick Street, GLASGOW.



OFFICES ABROAD—

NEW YORK: Woolworth Buildings.
CAIRO: 10, Chareh Tourguemane.
SHANGHAI: 9, Ningpo Road.
BOMBAY: Telephone Buildings, Home Street.
MADRAS: Post Box No. 237. And at
HONG KONG, SINGAPORE, PENANG and
Principal Ports throughout the World.

SWEDEN.

[FROM OUR OWN CORRESPONDENT.]

Stockholm, July 22, 1920.

Both sections of the pulp market continue to be very strong, and prices remain at high levels. The demand is extremely vigorous and considerable shipments have been made, particularly to Great Britain.

According to the returns made to the Board of Trade by the Swedish Cellulose Association there were open at the beginning of this year fifteen sulphite spirit factories with a normal annual output capacity of 10,000,000 kg. of 95 per cent. spirit. In addition to this, seven other factories are expected to be finished by the close of the year with an estimated capacity of 7,000,000 kg. It is, therefore, expected that the aggregate output should equal about 21,000,000 litres of 95 per cent. sulphite spirit corresponding in heat to 9,500 tons of benzene.

Paper mills are working very hard in order to dispose of old contracts and to enter into new ones, and it may be said that the demand for paper is even stronger than that for cellulose. The threatened strike among paper mill workers has happily not materialised, a settlement being arrived at just in time.

I observe that the Railway Board proposes higher rates for cellulose because of the necessity of obtaining greater revenues for State Railways.

SVENSK.

NORWAY.

[FROM OUR OWN CORRESPONDENT.]

Christiania, July 21, 1920.

NOTWITHSTANDING the holiday spirit the demand for both chemical and mechanical pulp has been rather lively. Special interest has been aroused in a number of American enquiries. *Farmand* states that a number of contracts have been concluded and that there is reason to believe that this is due to the fact that the American stocks are beginning to ebb out, and that at the same time the low exchange value of the Norwegian kroner is stimulating the American purchasers to "make hay while the sun shines."

Norwegian exporters are said to have contracted for delivery of easy bleaching sulphite at kr. 1,240 per English ton f.o.b. Christiania. Strong sulphite has been sold at kr. 1,150, and strong sulphate at kr. 900, likewise per English ton f.o.b. Christiania. Though the quantities shipped to America are not unimportant, *Farmand* states that "it is only a minor part of our productions which will find its way to U.S.A., most of our productions having already gone, and will continue to go, to England."

Later information states that there has been a great demand for paper from the United States also.

Messrs. Relph, Darwen & Pearce, of London, have appointed Mr. Robert Marshall, who, during the war served as British Vice-Consul at Stockholm and Haparanda, as the manager of their wood pulp and chemical departments.

VIKING.

FINLAND.

[FROM OUR OWN CORRESPONDENT.]

Helsingfors, July 21, 1920.

At the recent annual meeting of the Central Office of the Amalgamated Paper Industries, the President (Col. Serlachius) reviewed the year's operations, said: "The market the paper industry had obtained in Ger-

many in the latter part of 1918, suddenly came to an end at the beginning of last year. At the beginning of 1919 our associations sent special representatives to England, France, Italy and America to investigate the possibilities of finding markets in the Entente countries and America. All through the war Finland had been shut out from these markets and it was therefore necessary to organise the sales from the very beginning. It was scarcely possible to count on any extensive outlet for our goods, chiefly because the purchasers were entirely devoid of confidence. By degrees general confidence in the market returned, when it was seen that no fall of prices could be counted upon.

During 1919 exports were as follows: Paper, 46,000 tons; mechanical pulp, 64,400 tons; cardboard, 15,800 tons; chemical pulp, 73,800 tons. The total value was 217,635,000 mks., which it is expected to quadruple for the year 1920.

An estimate concerning the country's material resources places the value of the forests at 21,000,000,000 Finnish marks.

FINNE.

RUSSIA.

[FROM OUR OWN CORRESPONDENT.]

Petrograd, July 17, 1920.

THERE cannot be said to be any great improvement in the situation. Some paper mills are working, but there is nothing like the production required. The hope that a commercial agreement with England may be effected is widespread, but so often have Russians been disappointed, that the position is now being viewed with some doubt.

RUSS.

WOOD PULP FROM ARGENTINA.

THE utilisation of the forestal riches of Misiones Territory, Argentina, for the manufacture of paper pulp is a suggestion that has met with favour among those interested in developing this industry in the country. Adequate means of water transportation is one of the especial advantages emphasised.

This territory, containing about 11,700 square miles, is in the extreme north-west of Argentina, lying between the rivers Parana and Uruguay, which, in that region, average about 50 miles apart. Since the Parana is navigable for large steamers, water communication can be maintained with Buenos Ayres, Monte Video and other ports. Misiones is tropical and heavily wooded, more than 700 varieties of trees having been counted; among these is an abundant tree called *caraguatazol*, said to be very well suited for paper pulp.

Almost all of Argentina's supply of paper is received from other countries, and in proportion to the population there is a considerable consumption of paper and paper products. Several local paper mills import pulp and waste products to a certain extent, however. The following figures give the importations of pulp and of the rougher papers for the six months'—period ending June 30, 1919: Wood pulp, 7,050 gross tons; newspaper, 17,745 tons; wrapping paper, 942 tons; pasteboard, 2,761 tons; book paper, 3,415 tons.

Although the Territory of Misiones is sparsely settled, it is one of the sections to which immigrants are now turning. A holding, containing 416,800 acres, covered with heavy forests with an abundance of Araucanian pines 65 ft high, was recently offered for sale at about 2 dols. per acre.

WOOD PULP PAPER AND BOARDS TIMBER

of every description
exported c.i.f. all principal
ports of the world.

KJELLBERG & HEDBERG

STOCKHOLM.

Cables : "Swedemill."

Telegraphic Address : "Neco, Edinburgh"

T. T. McCROW

(T. T. McCROW G. W. McCROW.)
WINDSOR BUILDINGS, EDINBURGH.
100 PRINCES STREET,

Esparto

(SOCIÉTÉ GÉNÉRALE DES ALFAS.)

Woodpulp

(EKMAN & CO.)
Sulphite, Soda and Mechanical.

Alums & China Clay

(H. D. POCHIN & CO., LTD.)

Mineral White

(CAFFERATA & CO.)

Amber Size

(FOX, STOKELL & CO.,
LONDON.)

Starch, Glues,

and other Materials for Paper-Making.

ELECTRO BLEACH AND BY-PRODUCTS LTD.

ELECTRO  BRAND.

Manufacturers of
Bleaching Powder, 35/37%.

Soda Crystals,
PURE CRUSHED.

Caustic Soda,
SOLID AND LIQUID.

"Vacuum" Salt,
DRIED AND UNDRIED.

Works and Office:-
MIDDLEWICH, CHESHIRE.

New Process of Silicate Cotton (Slagwool Covering)

Write for Estimates. (Patent No. 13693).

LONSDALE BROS. LTD.,
Pump St. Works, Bank Top, BLACKBURN.

Boiler Covering Manufacturers and Contractors.

Specialities :

Solidified Slagwool Insulations. Engine Lubrication & Cylinder Casings.
Asbestos Coverings in all grades. Patent Removable Economiser Covers.
Magnesia, Sectional & Plastic Coverings. Flange & Valve Covers.
Telegrams : "PLASTIC, BLACKBURN." Telephone No. 625.

LEWIS CLEGG & SON,

Examiner Buildings, Strutt Street, MANCHESTER.
Telegraphic Address : "Conifer." Telephone No. : City 6585
Works : Stalybridge.

GLUES AND GELATINES

CANADIAN NEWS.

Population of Quebec.

THE Quebec Bureau of Statistics estimates the population of that Province at 2,500,000.

New Plant.

THE Fort William Pulp and Paper Company will build a 3,000,000 dollar plant at the head of the Great Lakes.

Big Newsprint Contract.

MESSRS. PRICE BROTHERS, LTD., of Quebec, are reported to have entered into a big contract for newsprint paper with the *Daily Express* of London.

Spain Wants Paper.

A REPRESENTATIVE of all the Spanish paper and lumber interests is at present in Canada conducting an investigation into the Canadian supplies available for Spain.

"Salesmen's Schools."

THE school for salesmen conducted recently at the Fenimore plant of the Union Bag and Paper Corporation was attended by a large number of the salesmen who handle the products of the company and the lectures were unusually instructive.

New Sulphate Pulp Mill.

THE new sulphate pulp mill which is being erected at Bear River, N.S., is practically completed. The diffuser room is now finished, while the digester room is well under way. The recovery plant is also well advanced. The work of installing the equipment for the various buildings will start next month and the plant will be in full operation this autumn.

Utilisation of Waste Paper.

WASTE paper will be utilised by the Red River Paper Mills Co. in the manufacture of wrapping at its new plant in Winnipeg, Man. Wrapping papers, manufactured from mere waste paper collected and paid for throughout the city, will be the initial product of the new mill. Other adjuncts will be manufactured after the mill has been operating for a short time.

The Embargo on Pulp Wood.

ADDRESSING the Youngman's Liberal Association at Montreal, Sir Lomer Gouin, the Premier of Quebec, declared that it was not the intention of the Provincial Government to repeal the embargo on pulpwood, despite the attitude taken up by Washington. He also intimated that he was in favour of moderate protection and could not see the difference between a moderate protectionist and a moderate free trader.

Pulpwood Menaces Navigation.

MR. G. C. WOODWARD, American Consul at Campbellton, N.B., has sent a report to the Department of Commerce stating that drifting pulpwood in the St. Lawrence River and Gulf has become a menace to navigation. It is reported that owing to the breaking of booms at Murray, C.B., pulpwood valued at half a million dollars was swept out to sea from the North River, and it is presumed to be the pulpwood reported drifting in the mouth of the St. Lawrence.

Home Needs First.

SIR HENRY DRAYTON, Minister of Finance, informed a conference at Ottawa some time ago that the Government will insist that domestic paper requirements be met in advance of all other demands upon trade. The Canadian publishers declared the newsprint necessary to prevent suspension of twenty-six daily papers affected represented

less than 2 per cent. of the exports and they are asking no favours regarding prices. Sir Henry said that, notwithstanding agreements made last fall, 25 per cent. of the daily papers in Canada are in danger of being compelled to suspend owing to inability to get newsprint.

Another Estimate of Canadian Pulpwood.

MR. LOUIS PICHE, Provincial Forester, estimates that in Quebec there are 360,000,000 cords of all pulpwoods. Of this amount there are 155,000,000 cords of available spruce and balsam which, at the present rate of cutting, namely, 3,000,000 cords per year, would give about 52 years' supply. It is estimated that there are in Ontario 250,000,000 cords of spruce and balsam. Of this it is estimated that at an early date the cut will be 1,500,000 cords, which indicates 67 years' supply. New Brunswick, with 36,000,000 cords of spruce and balsam, and an annual cut of 1,250,000 cords, has sufficient for a 29 years' supply.

Spanish River Pulp and Paper Mills.

THE shareholders of the Spanish River Pulp and Paper Mills, Ltd., at a special general meeting in Toronto recently, unanimously approved of a bye-law passed by the Board of Directors providing for the issue and allotment of preference shares of the company amounting to 42 per cent. of the par value of the outstanding preference stock up to June 30, 1920, and also a further amount to retire the dividend vouchers issued last year with respect to the one year's dividend on the original issue of \$3,000,000 of preference stock. The issue of preference stock will be made to the shareholders and to the holders of dividend vouchers to whom reference has been made.

Additions to Plant.

IT is reported that many companies are making additions to plants in order to keep up with demands. The Howard Smith Paper Mills Company are extending their sulphite department at the Cornwall plant, known as the Toronto Paper Manufacturing Company, and expect that the work will be completed by October next. The company recently secured valuable pulp wood limits in Gaspé and will bring in the wood by barges from that point to Cornwall. The St. Maurice Paper Company, at Cap de la Madeleine, Quebec, is erecting a new machine shop which will cost about \$8,000. The Interlake Tissue Mills Company will shortly instal another machine in their plant at Merritton and the Canadian Vegetable Parchment Paper Company, which began the production of vegetable parchment paper a few weeks ago at Merritton, Ontario, have developed such a business that they are already thinking of adding another machine which will bring the output up to twenty tons a day.

Canadian Pulp and Paper Exports.

CANADIAN trade returns for the fiscal year ending March 31 give the total value of the pulp and paper exports for the year as 103,636,901 dollars. In 1919 they were valued at 82,568,771 dollars, and in 1918 at 63,348,443 dollars. The year's paper exports included 14,272,513 cwt. of newsprint, valued at 53,203,792 dollars, constituting 50 per cent of the total. The unmanufactured pulpwood exported during the year amounted to 838,732 cords, valued at 8,454,803 dollars, as compared with 1,597,042 cords, valued at 15,386,600 dollars in 1919 and 1,002,127 cords, valued at 8,339,278 dollars in 1918. Pulp and paper exports for March—the final month of the year—were valued at 11,668,796 dollars, a gain of 3,668,236 dollars over the corresponding month of 1919. Exports of newsprint for the month were 1,426,149 cwt., valued at 6,186,305 dollars, and manufactured pulpwood 47,904 cords, valued at 497,984 dollars, a drop of over 100,000 cords in quantity, and of 910,150 dollars in value compared with the corresponding month of 1919.

AMERICAN NEWS.

Paper Mill to the Rescue.

ONLY the voluntary offer of two cars of soft coal from the American Writing Paper Company saved the municipal lighting plant from closing down at Holyoke recently.

Rumour!

• THAT the National Paper Products Company is to erect a plant as large again as the mill which it now has in this place, is the report current in paper mill circles along the Black River Valley.

No Confirmation.

NOTHING further has been reported concerning the sale of the Malone Paper Co., at Malone, N.Y., the report having gained circulation that an offer of \$1,500,000 had been made by New York parties.

"Passed Away."

WILLIAM B. WALKER, aged eighty-three years, died last month at his home, after a short illness, of heart disease. He was one of the oldest paper-makers in America, and came to this country from England in 1863.

"The Inner Man."

High cost of living for mill employees in the Fox River valley has been given a blow by employers. Recently the Fox River Paper Company distributed a carload of sugar to its workers, charging them 18 cents a pound, less than half of the retail price here. A carload of coffee was recently sold to workers at cost price.

Death of Mr. Henry E. Surface.

THE Pulp and Paper Industry of Canada sustained a severe loss in the death of Mr. Henry E. Surface, which occurred in a train wreck near Scotia, New York, recently. Mr. Surface was a familiar figure at meetings of the Technical Association, of which he has been a member for many years, and to which he has contributed both by committee work and papers on bibliographic subjects.

Coming to Europe.

MR. TAKESUITA a paper maker of the Kokura Paper Mills Company, Ltd., Kokura, Fukuokaken, Japan, is on a visit to the United States to look over the paper mills of this country. He expects to leave for Europe on August 1, where he will visit the European mills. He states that American machinery, and in fact everything in regard to the manufacture of paper is far in advance of that employed in any of the foreign countries he has visited.

Correspondence Course for Paper-Making.

A CORRESPONDENCE course in paper-making to supplement practical work in the mills has been added by the extension division of the University of Wisconsin. Text books, prepared by leaders in the industry, will be available for distribution early in September. It is intended to interest workers in all paper mills in the new course, and it is probable that instructors will be sent to mill centres to deliver addresses and confer with the students if classes are large enough. Instruction will start with the most elementary principles of paper-making and will take the students through the entire process.

The New English China Clay Corporation.

It is announced by English China Clay Co., Ltd., of St. Austell, England, that they have completed arrangements whereby consumers of English clay in America

are placed in direct communication with the producers in England by the formation of the English China Clay Sales Corporation for the purpose of conducting the sales and business. The officers are Mr. S. Goldman, President, Mr. H. M. Gillespie, vice-president, and Mr. A. H. Holbrook, secretary. Mr. Goldman has been connected with and in charge of the Clay department of Perkin, Goodwin Co., sole agents for the West of England and Great Beam Clay Co., Ltd. Mr. Gillespie is of Messrs. Hannmill & Gillespie, for more than 60 years agents for Martin Bros. Mr. Holbrook was associated for 27 years with Richardson and Co., of Boston. A prominent man from the St. Austell office will be appointed treasurer.

Reported Shipments of Cotton Linters to England.

It is reported that part of the American Government's stock of linters, representing practically an accumulation of a year's cutting at 140 pounds per ton, is gradually finding its way to New Orleans, La., for exportation to England for the paper trade here. It is stated that shipments have already been made from that port, and the U.S. Government's agent is said to be devoting much energy with a view of effecting further exportations. Relative to the question of the production of hull fibre specially for the paper trade, the Memphis Hull Fibre Company is cutting all the seed it can get purely for this trade in England. The company is British owned and managed, it is understood, and the apparent success of this firm has caused no little consideration of this market among the prominent oil crushers in the South. It is known that two shipments of hull fibre have been made to Japan for a similar purpose, these involving lots of 200 and 250 tons for experimental purposes.

GERMAN DYESTUFFS.

GOVERNMENT POLICY.

In the House of Commons, recently, Colonel Pickering asked the President of the Board of Trade if he was aware that America had arranged to import a large quantity of German dyewares; if he was also aware that the country was urgently in need of these dyewares; would he state the reason why the Board of Trade had hitherto informed all inquirers that no German dyewares were available for this country; was it the definite policy of the Government to compel manufacturers to purchase their dyewares from British Dyes, owing to the Government's financial interest in that company; and was he also aware that this company could not satisfy the requirements of manufacturers in certain dyes, and that the inability to obtain suitable dyes jeopardised the sale of finished products in neutral markets.

Mr. Bridgeman: I am aware that America has arranged to import a certain quantity of German dyestuffs. There is, no doubt, a demand for German dyestuffs in the United Kingdom, but my hon. and gallant friend is mistaken in thinking that the Board of Trade have stated that these goods are not available for this country. Since last December there has been no prohibition of the import of any dyestuffs into this country and we are securing supplies of dyestuffs from Germany under the Reparation Scheme. Even during the period of prohibition of importation, except under license, special arrangements were made to secure from Swiss manufacturers dyes which were not available from other sources. As to the relation of the Government to British Dyestuffs Corporation, they are under an obligation to safeguard the dye industry in this country and for that purpose to control importation. This obligation must be carried out in due course. It is no part of their policy to compel British manufacturers to purchase dyestuffs from any one British firm.

Special Prepaid Advertisements.

SITUATIONS VACANT, BUSINESSES WANTED or FOR DISPOSAL, MILLS WANTED or TO LET, MACHINERY, and MISCELLANEOUS are inserted at Six Shillings for twenty-four words or under; Two Shillings extra for every subsequent line or portion of a line.

LEGAL AND PARLIAMENTARY NOTICES, FINANCIAL ANNOUNCEMENTS, TENDERS, SALES BY AUCTION, &c.—2/6 per line.

CHEQUES and Post Office Orders to be crossed and made payable to S. C. PHILLIPS & Co.

Offices: 47, Cannon Street, London, E.C.
448 & 450, Produce Exchange, Manchester.

FILTER TRADE. For sale, the process for making the celebrated Continental Ashless Filters. For particulars, apply C. H. HOWELL, 11, Walton Road, Woking. Aug. 722.

FRENCH factory of Fancy Papers require Representative, young and active, able to correspond in French, for the sale of such products. Write No. 2851 Agence Havas Lyon. Aug. 721.

RECOVERY AND REMANUFACTURE OF WASTE PAPER BY JAMES STRACHAN, 128, 6d. Copies can be had from THE PAPER MAKER Office, 47, Cannon Street, London, E.C.4.

KOLLERGANGS. Two for disposal, one 8ft. dia. bottom of pan and one 6ft. dia. with stones and shafting, etc., complete and as new. - Can be seen at CHAS. VENABLES & Co., Ltd., Taidow Paper Mills, near Maidenhead, Berks. July-Aug. 701

WÄNDEL AND WHITE'S OSCILLATING STRAINERS. Hilbert's Beaters, two Bowl Calculators for plate or board glazing. Strainers practically new. All in good working order. All for immediate delivery to home or abroad. MARTIN BROS., LTD., 35, Blackfriars, Street, Manchester. August 718

WORKS MANAGER wanted for London district; one who has had control of both male and female workers; mill experience preferred. State full particulars and salary required to A. D., c/o PHILLIPS, MILLS & Co., LTD., Waste Paper Merchants, Bridge Wharf, Battersea, London, S.W.11. Aug.—717.

WANTED for abroad, Assistant Paper Mill Manager. Applicants must not be over 35 years of age and must have knowledge of the working of Esparto and wood papers of superior grade. Apply, stating age, experience and salary required to Box No. 714, THE PAPER-MAKER Offices, 47, Cannon Street, E.C.4. August 714

LOOSE LEAF ACCOUNT BOOKS. Owner of a Swiss account books factory wishes to get in touch with account books manufacturer with the object to sell or license a simple and practical loose leaf book system already well introduced in Switzerland. - Please address offers to Box O.E. 606, Z. Grell-Bussli Advertising ZÜRICH.

O.E. 7275 Gr. July and Aug. 708

REQUIRED by a large firm of Wholesale Paper Merchants in the North of England, a live representative for Yorkshire. A thorough knowledge of the trade required and must be able to justify turnover. Liberal terms to right man. Apply stating full particulars to Box No. 712, THE PAPER MAKER Offices, 47, Cannon Street, E.C.4. Aug. 712

FOR SALE.—Between fifty and hundred fully-paid Ordinary £1 shares. Quick sale necessary owing to the death of the late owner, and estate being wound up. Full particulars on application to Messrs. TAYLOR, STANBURY & Co., Solicitors, 18, Billiter Street, E.C.3.

WANTED, by a North of England firm, a Chemist who has practical experience in paper and board manufacture. Must be able to originate and carry out research on problems in paper manufacture and its applications. Good salary to a suitable man. - Apply with references to Box No. 711, "THE PAPER MAKER" Offices, 47, Cannon Street, E.C.4. Aug.—711

WANTED for abroad, Power Plant Engineer. Applicant must have experience in running and maintenance of large power plant, water tube boilers and motors in connection with paper mill. - Apply, stating age (preferably not over 35 years), experience and salary required to Box No. 713, THE PAPER-MAKER Offices, 47, Cannon Street, E.C.4. August—713.

WANTED for abroad, fully qualified Engineer with paper mill experience. Must be capable of taking charge of modern mill and have knowledge of electrical machinery. Preference given to applicant hold similar position. - Apply, stating age (preferably not over 35 years) experience, reference, and salary required to Box No. 715, THE PAPER-MAKER Offices, 47, Cannon Street, E.C.4. August—715.

CONTINENTAL PAPER MERCHANT wishes to engage the services of a man to call upon his customers, wholesale paper merchants and manufacturers of paper goods, and to open up business relations with other houses in the trade not yet on his books. Applicants for the post must have an extensive knowledge of the paper trade, be good salesmen and willing to devote their whole time exclusively to this agency. - Box 710, THE PAPER-MAKER Office, 47, Cannon Street, London, E.C.4. August 710.

ON ACCOUNT OF WHOM IT MAY CONCERN.

Salvage ex-fire at Messrs. T. W. Leigh & Co.'s Warehouse, Thomas Street, Liverpool.

By order of Messrs. Newall, Harrop & Gibson,

PAPER.

284 reams Cream Laid, 326 reams Glazed Brown, 350 reams Thin Cap, 216 reams Glazed Transparent, 110 reams Glazed Laid, Parchment, 38 reams Label Manilla, 10 reams White Tissue, 25 reams Glazed Casing, 244 reams White Bleached Greaseproof, 1,005 reams Semi-Bleached Greaseproof, 488 reams Veg. Parchment, 115 bales Cream Wove Bank, 10 bales White Printing, 7 rolls Photo Black, 18 bales Wood Pulp Boards, 6 bales Straw Boards, &c.

Robert Lyon & Co. will sell the above by Public Auction on Thursday, July 22nd, at the Liverpool United General Produce Association Sale-room, 13, Rinford Street, Liverpool, at one p.m. prompt.

Apply for Catalogues to the Brokers' Offices, A23 and 24, Exchange Buildings, Liverpool, or 1, Lombard Court, London, E.C.3, or to Messrs. Newall, Harrop & Gibson, 17, Dale Street, Liverpool. Aug.—719.

REX, WEDDALL & CO.

**WOODPULP
and PAPER
a Speciality**

FORWARDING AGENTS

42, Deansgate, MANCHESTER

Tel.: "Release." Phone: 7530 Central.

K. H. KABBUR & CO., 30, Brown Street, MANCHESTER.

Telephone:—CITY 1831.

AND

Telegrams:—"KAMALA."

LONDON, PARIS, BARCELONA, MILAN, ALEXANDRIA, BOMBAY, CALCUTTA, DELHI, MADRAS, NEW YORK.

For PULP, COATING, or TINTING.

ALL COLOURS & CHEMICALS FOR THE PAPER TRADE

TIMBER FOR WOOD PULP, ETC. FOR SALE.

About 10,000 (TEN THOUSAND) ACRES of Timber indigenous to Zululand, Natal, South Africa. About 54 varieties of **SOFT WOODS**, particularly suitable for **WOOD PULP**

- Also, **HARDWOODS** for Mining and other purposes. The Forest is about 10 miles from nearest Railway Station and 100 miles from Durban, Natal—good roads. A **QUICK DEAL** is necessary as owner is leaving London shortly.—Apply in the first instance by letter to Box No. 720, PAPER MAKER Office, 47, Cannon Street, E.C.4.

PHILLIPS' PAPER TRADE DIRECTORY OF THE WORLD.

A NEW EDITION IS
NOW ON SALE PRICE **£1 1s.**

THE STANDARD WORK FOR PAPERMAKERS
AND ALL INTERESTED IN THE PAPER TRADE.

47, Cannon Street, LONDON, E.C.4.

BLANC FIXE

Pulp and Powder

**THE STOCKTON-ON-TEES CHEMICAL
WORKS LTD.**

STOCKTON-ON-TEES.

Telephone—432 Stockton.

Telegrams—"Chemicals, Stockton."

L. S. DIXON & Co. Ltd.

The safest thing in the world
to buy is — **REPUTATION**

Superior

Papers

BANKS AND BONDS.

Caxton Ex. Strong.	Imperial Bond.
Caxton Fine Linen.	Multipar.
Charta Dixonica.	Old Hampshire Bond
Dixona Bond.	Royal Mail Bond.
Empire Bond.	Silver Cable.

TUB SIZED WRITINGS.

Blackstone	Dixona Superfine.
Centaur Superfine.	Old Kent Linen.

ENGINE SIZED WRITINGS.

Atlantic Ledger.	Grandholm
Caxton Mercantile.	Glenburnie
Prince of Wales.	Woodville.

COVER PAPERS.

Advertiser.	Honourspan.
Caxton.	Patrist.
Chippendale.	Sheraton.
David Cox.	Studio.

BLOTTINGS.

Corporation.	Embossed Process.
Electric.	Patonic.

L. S. DIXON & CO., LTD.,

Cable Street,
LIVERPOOL

Canter Lane,
LONDON, E.C.3.

THOR THORESEN

LINE OF REGULAR STEAMERS
FROM EAST AND WEST NORWEGIAN PORTS TO WEST
COAST U.K. AND TO THE BALTIC AND VICE VERSA.

THOR THORESEN Jr. (U.K.) LD.
SHIPBROKERS, FORWARDING, INSURANCE AND COLLIERY AGENTS.

Telegrams: "Thoreline, Manchester." **7, Brazennose Street, MANCHESTER.** Telephones: 8067 and 8068 City.

And at LONDON, CHRISTIANIA and PARIS.

SCANDINAVIAN

**EAST-AFRICA LINE TO RED
SEA, EAST AFRICA, MADAGASCAR
AND VICE VERSA.** :: :: ::

VICKERY'S

LAYERS

TRANSPORTERS

In use
throughout
the
Paper-Making
World.

TRANSPORTERS

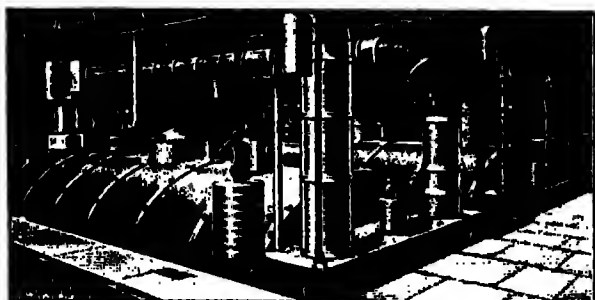
LAYERS

49, BEDFORD SQUARE,
LONDON, W.C.1.

Buy PAPERS of Continental origin

from
J. BACHTOLD & Co.
PAPER EXPORTERS
ZURICH
(Switzerland)

BOILER AND PIPE COVERINGS



**Crown Slag
Wool & Steel
Sheeting.**

The most efficient
covering ever tested.

96% SAVING

**Telluric
Cement.**

The most durable
plastic covering
in use.

CROWN ASBESTOS. 85% MAGNESIA.

SUTCLIFFE BROS.

Telephone—**SEAL WORKS, HYDE, Nr. MANCHESTER.**
Hyde 70.
London Works—Seal Wharf, High Street, Stratford, E.15. Established 1869.

A. W. K. TRUEMAN & SON,

LONDON. LEICESTER. BIRMINGHAM

Paper and Board Merchants,
Imports and Exports.

NEWS on REELS and in SHEETS
PRINTINGS.
KRAFTS.
VEGETABLE PARCHMENT.
GREASEPROOF.
TISSUES.
SULPHITES.
BOARDS.

STOCK LIST ON APPLICATION.

47, FLEET STREET, LONDON, E.C.4.

Telephone :

CITY 4718.

Telegrams :

"AWKTETFILS, FLEET, LONDON."

ORIGINAL BELTING "Massoni-Moroni's"

Extra Quality. The best woven and leather Belt used all over the World.

ROLLERS



LEATHERINGS

Sole Manufacturers

MASSONI AND MORONI, LTD.

Head Office:—MILAN (Italy).

Works:—MILAN and CANTELLO.

Representative for Export:—Mercantile Italiana Ltd., Genoa, 20 Venti Settembre St.

PAPER MAKING MACHINERY

Only Canadian builders of paper machines for the largest work.

HYDRAULIC TURBINES

Canadian manufacturers of I.P. Morris Hydraulic Machinery.

DOMINION ENGINEERING WORKS, LTD. MONTREAL, CANADA.

Cable Address : "DOMWORKS, MONTREAL."

Wardill & Gilbert

formerly trading as

H. HUBER & CO.

12 & 13, Upper Thames Street
LONDON, E.C.4.

Telegrams :
"ASPERO, GENT, LONDON."

Telephone :
CENTRAL 2399.

Specialists in
PAPER AND PULP.

Direct Correspondence Solicited
with Pulp and Paper Mills.

**Sole Agencies of British and
Foreign Mills undertaken.**

JOHN M. WATSON & CO.

—CROWNPOINT WORKS—
37-59, DAVID ST, GLASGOW

SUPPLIERS OF

Paper-Making Materials

HOME AND EXPORT

WASTE PAPERS—RAGS—NEW CUTTINGS
ROPES—JUTE—CANVAS—BAGGING.

*All our stocks graded to suit
Paper-makers' requirements.*

ENQUIRIES SOLICITED.

Telegrams & Cables : "Cellulose, Glasgow." Telephones : 66 & 3027 Brighton.
Codes : A B C (5th Edition), "Waste Merchants," "Western Union."

Telephones :
AVENUE 6998
(2 lines.)

AVENUE 1729
(3 lines.)

Chas. Page & Co., Ltd.

(ESTABLISHED 1880)

47/51, King William Street, London, E.C.4.

MANCHESTER : 26 Brown Street.

Telegrams :
"PAGANINI,"
LONDON.

"PAGANINI,"
MANCHESTER.

PRUSSIAN BLUE
PAPER MAKERS' COLOURS
CASEIN
ANTICHLOR
PIGMENTS

PRUSSIATES OF SODA
AND POTASH
HYPOSULPHITE OF SODA
SKIN GLUES SOLUBLE BROWN
CRYSTALS
GELATINES.

ALL PAPER MAKERS' CHEMICALS, COLOURS AND SUNDRIES
TEST OUR SERVICE AND QUOTATIONS.

Soluble Brown Crystals

Soluble Brown Paste

Carbon Black

Mineral Black

English Umber

(Lump & Powder)

Pulp Colours

Bronze Paste Blue

Powdered Soluble Blue

Paper-makers' Ochre

Red Oxide

Ultramarine Blue

(Alum Proof)

Aniline Dyes of every description

J. L. CARDWELL & CO., Ltd.,

Managing Director - - A. R. LUCAS.

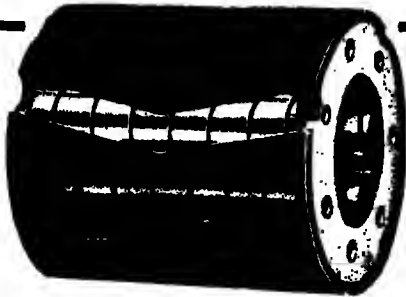
11, Blackfriars Street, MANCHESTER.

Tel. No. 3323 City.

Tel. Address : "Oxidation."

HYATT

—the reliable bearing with the resilient roller



1. The HYATT ROLLER BEARING is as great an advance in bearing construction as the pneumatic tyre was an advance on preceding types.

2. It fulfils all the conditions required of the theoretically perfect bearing in a practical manner.

The type illustrated is applicable to all classes of machinery. Our engineers will assist you in its application to your machines. Specify Hyatt Bearings when ordering new machines.

HYATT LTD.,
24, Devonshire St.,
Theobalds Road,
LONDON, W.C.1.

(temp. offices)

Our new descriptive catalogue of the Hyatt Line Shaft Bearing is now ready. We shall be pleased to send you a copy.



PAPER

WE SPECIALISE IN NEWS, PRINTINGS, BROWNS, CAPS, SKIPS, TISSUE PAPER (WHITE & COLOURED), MACHINE GLAZED CAPS, KRAFTS AND NATURE BROWNS, WRAPPING PAPER, TELEGRAPH PAPER, COUNTER AND TOILET ROLLS, SMALL REELS AND ALL KINDS OF CREPE; BAGS FOR ALL TRADES.

STRAWBOARDS, ALL SIZES AND SUBSTANCES; LARGE STOCKS IN BERMONDSEY AND ELSEWHERE.

We shall have pleasure in sending you our stock list on receipt of your request.

"BRECHTCK" BOND.

A super-bond letter paper, linen faced or plain. Full range, white and coloured. Supplied at distinctly reasonable prices. Immediate delivery.

THE FRENCH PAPERSTOCK COMPANY, Ltd.

PENRHYN WHARF.—TYSONS WHARF.—HALCOMBE WHARF.—COOKSONS WHARF.

All Correspondence to 24-30, BERMONDSEY WALL, LONDON, S.E.16.

Phone: Hop 3837 3 lines.

Telegraphic address: "Brechtock Rothun, London."

Local branches at
WEST KENSINGTON,
CALFORDIAN ROAD,
LEWISHAM, Brixton,
HELMSTON, D.,
CUTHBERTON-ON-SEA,
BURSTON AND
MILNTHORPE.

**SPECIAL
OFFERS**

**FRENCH FANCY
BOX PAPER.**

Full range sent on
application, with prices



Roads and Tyres

Choice of road is not possible with motor transport—choice of tyre is.

The Palatine Tyre is built to stand extremes.

The extra depth of tread rubber gives smooth running on a rough road, minimises vibration and saves wear and tear of mechanical parts.

The wide weight-bearing, tread-surface is designed to carry full weight capacity, and to prevent lateral movement: It is the most efficient preventative of tread-separation yet invented.

In the process of manufacture the edges are strengthened so that Palatines wear evenly and smoothly, without shredding or chipping.

The stamp of the faith of its British manufacturers appears on its side as:—

PALATINE
SOLID TYRE

Made by

**THE LEYLAND & BIRMINGHAM
RUBBER Co., Ld. LEYLAND, LANCS**

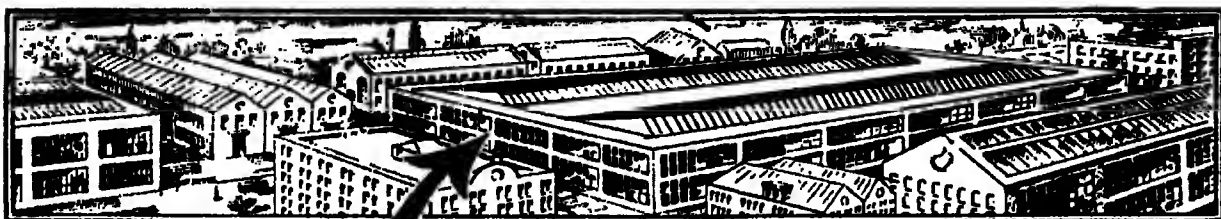
London Offices :

24-30 DUKE STREET, ALDGATE, LONDON, E.1

RAPID FITTINGS

We are able to fit on tyres within 24 hours at our
STOCK & FITTING DEPOT
28, 29 & 30 SIDNEY GROVE
SIDNEY STREET, CITY RD.
LONDON, E.C.1

BIRMINGHAM—124 New Street. **MANCHESTER**—Tower Chambers, 29 Brown Street. **CARDIFF**—110 Bute St., Docks. **GLASGOW**—49 Queen St., & Kent Works, Maryhill. **EDINBURGH**—25 North St. **CALCUTTA**—Hastings St. **JOHANNESBURG**—Barsdorf Buildings, Marshall Square. **BUENOS AYRES**—Rivadavia 1436.



1. ELIMINATES WASTE.
2. SAVES LABOUR.
3. INCREASES PRODUCTION.

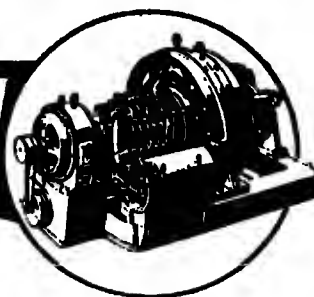
ELECTRIFICATION

No. 2. SAVES LABOUR owing to improved facilities for mechanical handling of goods.
Reduced maintenance staff.
Greater cleanliness throughout plant.
Better hygienic conditions.

Drake & Gorham, Ltd., are prepared to send an engineer to any part of the country to advise as to the advantages to be gained by electrification in any particular case, and are in a position to carry out the whole work in connection with any installation, including ordering of material, preparation of working drawings, and supervision of erection. Thus the responsibility for the whole of the work will be concentrated in the hands of a firm which, since 1886, has been engaged in the solution of problems in electrical, hydraulic and mechanical engineering, which has had unique practical experience of the relative excellence of the products of different firms, without being financially interested in any one, which has a highly qualified staff and an accumulated fund of knowledge which can be placed at the disposal of its clients, and which is consequently prepared to guarantee results.

**DRAKE
& GORHAM, Ltd.**

36, GROSVENOR GARDENS, S.W.1.
 29, PICCADILLY, MANCHESTER.
 50, WELLINGTON ST., GLASGOW.



2 Ton Pierce Arrow Lorries For Sale

READY to drive away. Reconditioned and in splendid running order.
 Cash price £600, or deferred payments considered.
 Wire at once to Automoteur, Picc'y, London, or telephone Gerrard 1426.



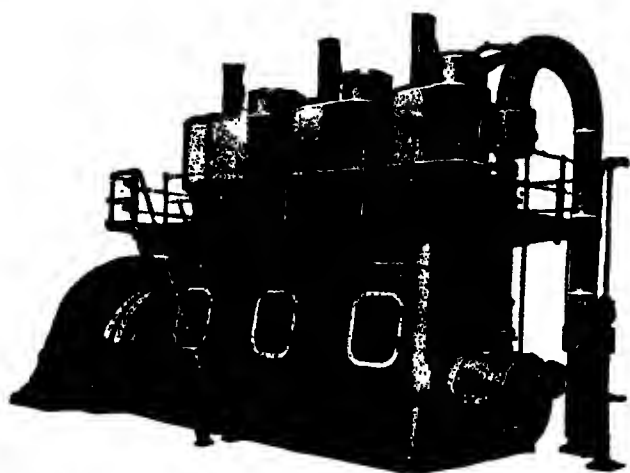
LONDON MOTOR GARAGE CO., LTD
 33—37, Wardour Street, W.1.

Browett-Lindley

Steam Engines

Many Paper Mills depend for their driving power on the reliability of Browett-Lindley Steam Engines. That they are reliable is evidenced by the repeat orders we receive. Browett-Lindley Steam Engines are examples of sound engineering practice expressed in simplicity of design and sturdiness of construction. They are made to operate continuously with the minimum of attention. They are economical of space—economical of fuel—economical of oil. They are designed to give lasting service and to ensure the minimum of maintenance costs. Liberal bearing surfaces are provided, there is perfect balance, and the working parts are easily accessible.

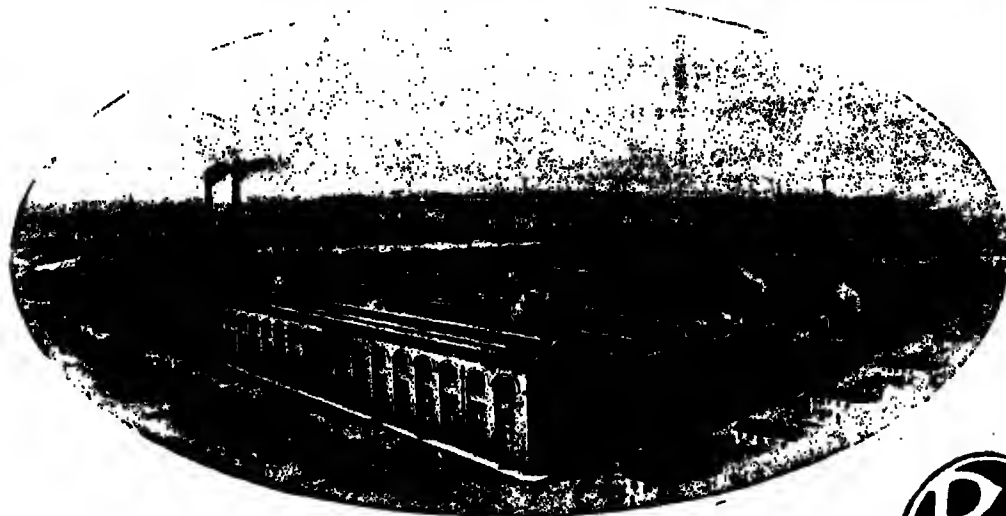
If you are requiring power that is economical and reliable, communicate with us—we shall be pleased to give you the benefit of our long and specialised experience. We have unique experience of building engines suitable for working with back pressure—thus using the exhaust steam for manufacturing processes.



Send for our list of users—
it includes many of the
leading firms of the country

BROWETT, LINDLEY & Co., Ltd.
SANDON WORKS, PATRICROFT, MANCHESTER.

London Office: AMBERLEY HOUSE, NORFOLK ST. • Glasgow Office: "SANDON," WILKINGTON, N.H.



The above perspective view is of our Patricroft Works—the birthplace of Browett-Lindley Steam Engines. Those works are up-to-date and efficiently equipped with everything requisite to the making of fine engines. The technical departments are staffed by some of the most expert engineers in the country and all the workers are skilled to a high degree. A large space is devoted to Test, and every engine is erected and thoroughly examined under power before despatch.



Factory Telephone 1049 CHISWICK.
Office " 6348 CITY.



Telegrams: "PACKERIES, LONDON."

The Forester Paper Co. (1917)

LTD.

**VICTORIA ROAD,
ACTON, W.3.
Manufacturers.**



DIRECTORS :
A. E. MALLANDAIN. S. FARROW.

PACKING PAPER
SPECIALITIES.

CORRUGATED
PAPERS & BOXES, Etc.

WAXED PAPERS.

EMBOSSED PAPERS.

PAPER SHAVINGS,
Etc.

FANCY PAPER
SPECIALITIES.

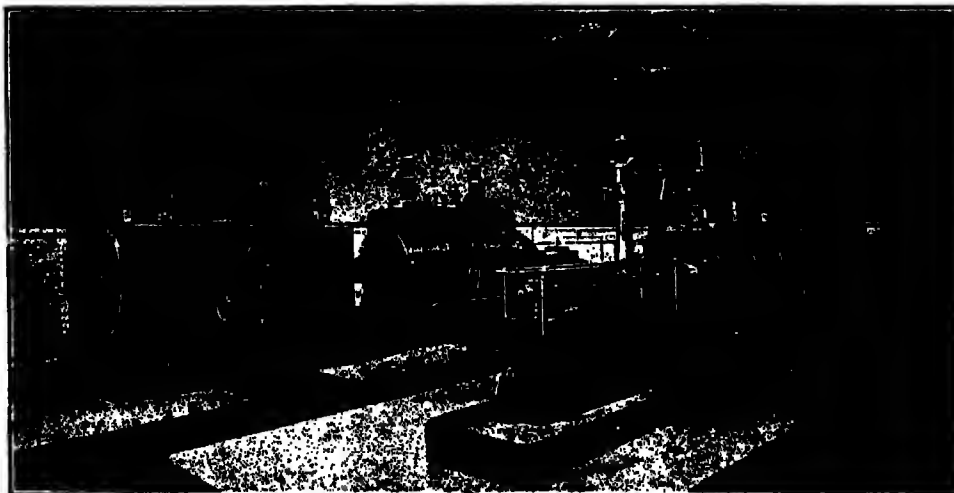
CRINKLED & CREPE
PAPERS.

SHELF AND LACE
PAPERS.

CONFETTI.

CARLHOS, Etc.

Offices: 1, Foresters' Hall Place, Clerkenwell, E.C. 1.



HIGH-CLASS
ECONOMICAL
HORIZONTAL AND
VERTICAL STEAM
ENGINES,
WITH CORLISS
OR PISTON
DROP VALVES.

MILL GEARING.

We have supplied, Engines of upwards of 36,000, I.H.P. to British and Foreign PAPER MILLS alone.

Pollit & Wigzell, Ltd.,

Engineers and Millwrights,

SOWERBY BRIDGE, YORKSHIRE.

Telegraphic Address: "Prow, Sowerby Bridge."

National Telephone No. 1563 (2 lines).

ELECTRIC "ORWELL" LORRIES

ALWAYS ALL BRITISH.

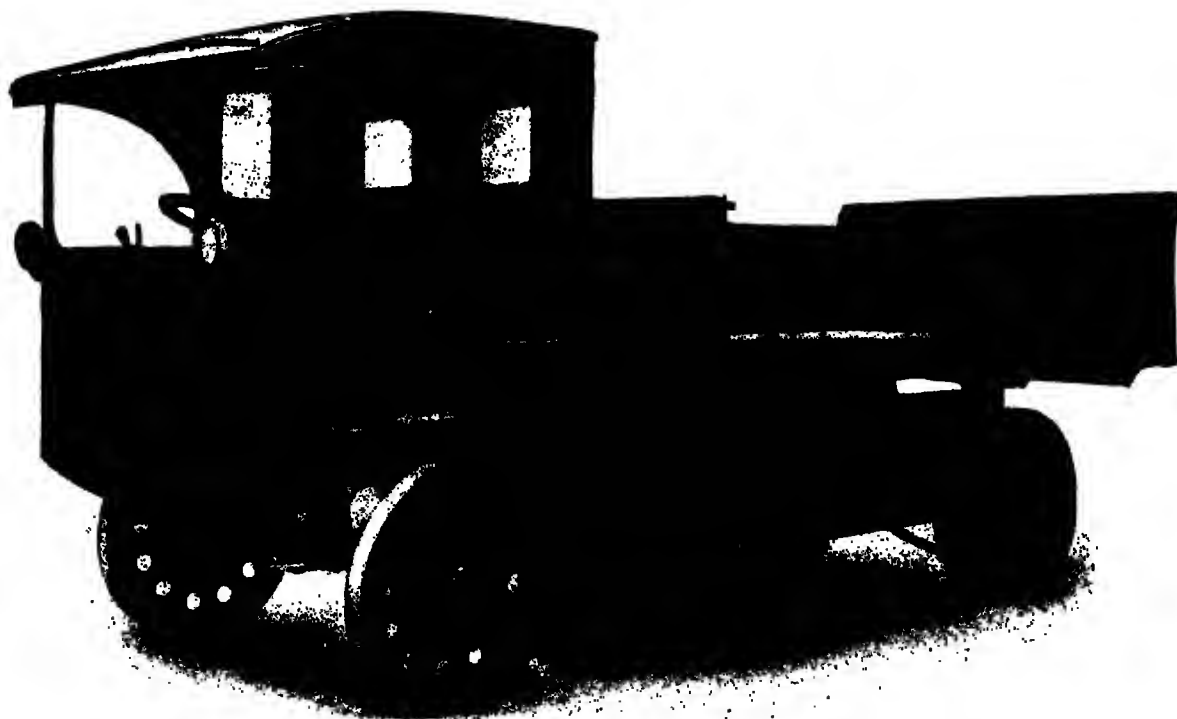
The Satisfied User is the solid basis of "Orwell" success.

NEW ZEALAND EXPRESS Co. used an "ORWELL" for general goods collection and delivery—THEN ORDERED THREE MORE.

WILLESDEN U.D.C. got four "ORWELLS" for refuse collection—THEN ORDERED ELEVEN MORE.

BOOTLE CORPORATION got one "ORWELL" for the same class of work—THEN ORDERED SIX MORE.

THERE ARE OTHER SIMILAR INSTANCES.



A RECENT "ORWELL" DELIVERY TO A FIRM OF PAPER MAKERS.
SATISFACTORY "ORWELL" SERVICE MAY BE YOURS.

RANSOMES, SIMS & JEFFERIES, LTD. (P.V. DEPT.)
Orwell Works, IPSWICH.

Selling Agents for Great Britain:

MOSSAY & CO., Ltd., 7, Princes Street, Westminster, LONDON, S.W.1.

Midland Agent:
R. VERNON C. BROOK,
A.M.I.E.E.,
Shirley,
Birmingham.

Agents for Ireland:
T. THOMPSON & SONS,
19, Lower Abbey Street,
Dublin.

Agent for Scotland:
C. J. RITCHIE,
68, Gordon Street,
Glasgow.

Agents for Yorkshire
(West Riding):
THE JOWETT MOTOR
MANUFACTURING Co.
Bradford.

Telegrams: "Prosperous, Cent. London."

Telephone: Central 13489.

W. D. EDWARDS & SONS, Ltd.,

75, KNIGHTRIDER STREET, E.C.4.

**WHOLESALE PAPER
MERCHANTS & AGENTS****LARGE STOCKS OF WRAPPING AND
BAG PAPERS, GREASEPROOFS, Etc.****The Woodlands Colour & Chemical Company.**

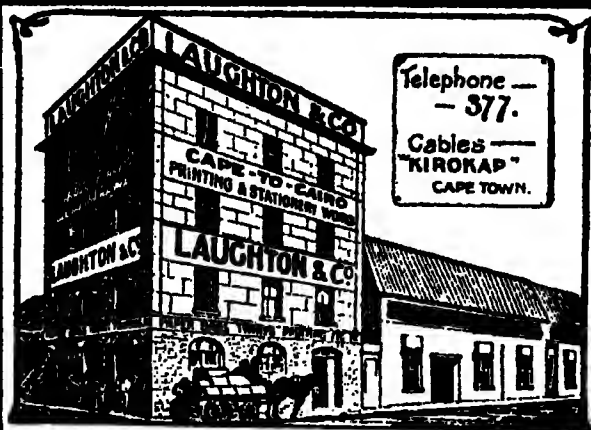
FRED TAYLOR, JOHN NOCHER,

**18, BOOTH STREET,
MOSLEY
STREET, MANCHESTER**Telegraphic Address:
"BASIC, MANCHESTER."

Telephone: CITY 947.

**MANUFACTURERS OF COLOURS FOR
LITHOGRAPHIC, CALICO PRINTERS,
& PAPER MAKERS, PAPER STAINERS,
DISTEMPER AND PAINT TRADES.**

Works: CHEETHAM HILL, MANCHESTER

**WHOLESALE AND EXPORT
Paper Bag Manufacturers and
Paper Merchants.****Manufacturing Stationers and Printers.**Formerly of London. Established at Cape Town 1896.
Besides being extensive users of various **PAPERS** for Manufacturing
Purposes, we also merchant many grades of Papers.Paper and Pulp Boxboard Mills are invited to send offers of any Clearance
Lines of these; also Samples of all their regular makings of various Papers.We are also open to act as Sole Agents in South Africa for several
Continental Mills, and invite Correspondence, either to our London Agents,**Messrs. COX, McEVEN & CO., Baltic House, 27, London-
hall St., London, E.C.** Reference, National Bank of S.A.**LAUGHTON & Co., CAPE TOWN.**
MECHAU STREET,

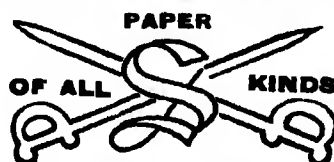
Telegrams: "OTHERWHILE, LONDON."

Telephone No.: BANK 5707.

ESTABLISHED 1891.

PAUL SABEL & CO.,

(PERCY P. E. SABEL)

Paper Agents and Merchants**(IMPORT AND EXPORT).**

Registered Design.

**Enquiries Solicited for all Kinds of
WRAPPINGS, PRINTINGS, AND WRITINGS.***Sole Agents for Several Continental Mills.***26, UPPER THAMES STREET, LONDON, E.C.4.**

RIORDON PULP & PAPER COMPANY LTD. - - Montreal, Canada.

Present Capacity 100,000 tons Bleached Sulphite per annum, which is being increased. ❀ ❀ ❀ ❀

C The new "KIPAWA" Mill, the finest in the world, is in successful operation. This extra prime Bleached Pulp can be exported to Great Britain in the Fall upon the completion of the new Electrolytic bleaching addition.

BROWN & FORTH

Brussels:
110, Les Broussarts.

Telegrams:

"IDEM, MANCHESTER."

"CERKBLUE, CENT, LONDON."



London:
21, Farringdon Street, E.C.

TRADE MARK
PROPRIETOR: JOHN BROWN.

Manchester:
10, Dolefield, Bridge Street.

Telephone Nos.:

MANCHESTER 3283, 3284, and
3285 Central.

LONDON 9496, 9497 City.

Alkali
Alumina Sulphate
Alumina Hydrate
Alumina Cake
Aluminaferric Cake
Ammonia Sulphate
Barium Chloride
Bleach Fixe
Bleach
Borax (Crystals)
Caustic White
Chrome Alum
Copper Sulphate
Hypo-sulphite of Soda
Oxalic Acid
Salt Cake

Sol Ammoniac
Satin White
Soda Ash, Carbonated
Sulphite of Soda
Sulphur, Rolls
Brown Umber
Bronze Blue
Burnt Turkey Umber
Carbon Black (English)
Chrome
Lithopone Subtilite
Mineral Black
Lithopone
Ochre (English and Irish)
Ochre (French)
Prussian Blue Paste

Prussian Blue Powder
Paste Black
Pure Zinc Oxide
Red Oxide
Red Oxide (Spanish)
Venetian Red
"Bone Glues"
Bone Size
Casine
Common Black Glue
Common Hide
English Gelatine
Foreign Gelatine
Foreign Glues
Fine Scotch Glues

Gelatin Size
Pickar Waste
Star/Hide (Shavings No. 1)
"Town Glues"
Tanners' Wat Pieces

Maise Starch: Crisp
Pearl
Powder
Special

Farina Starch: Prime
Rice Starch: Special (in chests)
Crystal (in bags)
Granulated (in bags)

Dextrine

Bauxite
China Clay
Chloride of Zinc
French Chalk
Gypsum, Annafine
Italian Chalk
Magnesite
Magnesite (in lumps)
Mineral White
Patent Hardening
Paper Makers' Plaster
Superfine Hardening
Talc (Norwegian)

ALUMINIUM AND BRONZE POWDERS

For all purposes.

WAXES:

Bee-wax, Composition Wax, Japan Wax, Ceresine Wax, Carnauba Wax, Core Veni Wick, Cable Wax, Ozokerite, Vegetable Wax, Spermaceti Wax.

SOAPS:

Of every description.

ULTRAMARINES:

Manufactured in all shades and for all purposes—Blues, Greens, Violets and Pinks.

SULPHATE of ALUMINA, 17/18%
Commercial and Iron Free.

KNUT EGGERS

PAPER AGENTS
and MERCHANTS

HOME and EXPORT

SPECIALITIES: _____

**KRAFT BROWN, CAP
SULPHITE
GREASEPROOF & NEWS**

PARIS.

(Head Office)

5, Oite Pigalle (9e)

Télégrams: "Leneggers, Paris."

Telephone: (2 lines)

Central 46-62. Louvre 10-44.

LONDON.

(Branch Office)

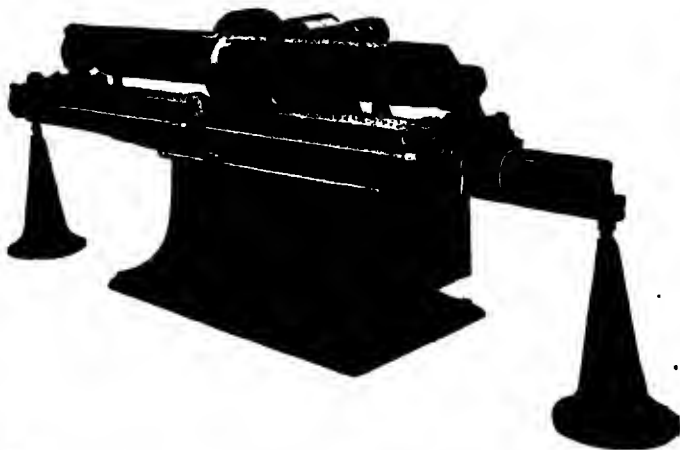
**58, Ludgate Hill,
E.O.4.**

Télégrams:

"Editorslip, Cent, London."

Telephone: City 7542.

Please apply for quotations and samples.



Protective Papers.

Glassine, Greaseproof, Parchmoid

Vegetable Parchment and Spinning Parchment,

Also Manufacturers of Diamond-Fibre
Trucks, and Receptacles.

Diamond State Fibre Company

Bridgeport, Pa. (near Philadelphia), U.S.A.

London Address: High Road, S. Tottenham, N.15.

L. S. SMALL & Co. (J. L. SHAW)

Proprietor

PAPER MERCHANTS.

Always in Stock: **BROWN WRAPPINGS & KRAFTS**

45/49, Blackfriars St., Phone: 6943 CITY.

MANCHESTER.

Grams: "Small, Lightning, Manchester."

NORMAN EVANS,

427-433, PRODUCE EXCHANGE,
MANCHESTER.

12, MANNINGHAM LANE,
HEADFORD.

Manufacturers of

**SPIRIT, OIL & WATER SOLUBLE NIGROSINES,
LIME BLUES, LIME GREENS, LITHOL RED
LAKE, ULTRAMARINE BLUE SUBSTITUTE, Etc.**

ENQUIRIES ESTEEMED.

AUTOMATIC KNIFE GRINDERS

FOR

Grinding Paper Cutting Knives

of all kinds from 6" to 130" in length, with
straight or concave bevel as desired. Prompt
deliveries on all sizes. Full particulars from:

HONEYWILL BROS.

79 MARK LANE, LONDON, E.C.3

ROZOLENE SIZE

FOR PAPERMAKERS.

Sole Makers:

THE ROZOLENE CO.,



**49, DEANS GATE,
MANCHESTER.**

FELBER, JUCKER & CO.

(Established 1860)

LTD.

MANCHESTER:

Head Office:—

29, PETER STREET.

Telephone:—

CITY 7790 (Private Exchange).

Telegraphic Address:—

"FELBER, MANCHESTER."

LONDON:

37, WALBROOK, E.C.

Telephone:—

BANK 200.

Telegraphic Address:—

"FELBER, CANNON, LONDON."

CODES:

A.B.C. 5th and 6th Edition. Liebers. Western Union. Hamiltons. Private.

Branch Offices:—

BOMBAY, BUENOS AIRES, JOHANNESBURG and MILAN.

WHOLESALE ONLY

Papermakers' Agents

WHOLESALE ONLY

Largest Importers & Exporters of All Classes of
BOARDS & PAPERS

Agents: **Finnish Board Union**

Comprising:—

Enso, Myllykoski, Kymmene, Tammerfors, Karhula, Pankakoski,
 Kaitimo, Aaneikoski, Hamekoski, Ingerola, Lonnqvist, Herrfors,
 and Nasijarvi Mills.

THE
“LEADER”
 TRADE MARK

**ENVELOPE FOLDING &
 GUMMING MACHINE**

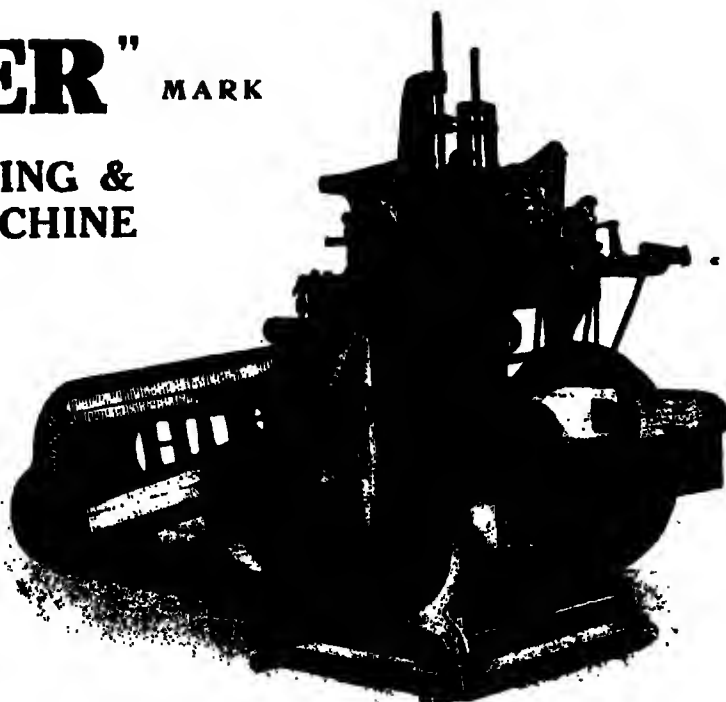
FASTEST AND SMOOTHEST RUNNING
 MACHINE ON THE MARKET.

Sealing flaps gummed and
 dried at a speed of 130 enve-
 lopes per minute.

UNRIVALLED FOR—**SPEED,**
EFFICIENCY and **EXCEL-**
LENCE OF GUMMING.

David Carlaw and Sons,
 31, Finnieston St., Glasgow. *Limited.*

Telephones: 1262/3 Central.
 Telegrams: Automaten, Glasgow.



London Agents:

JOHN W. BAINBRIDGE, LTD., 28, FINSBURY PAVEMENT, LONDON, E.C.2.

**HAMMERMILL
 BOND**

**HAMMERMILL
 COVER**

**HAMMERMILL
 LEDGER**

**HAMMERMILL
 SAFETY**

**HAMMERMILL PAPER Co.'s
 AGENCY,**

THE LINDENMEYR & JOHNSON PAPER CO., LTD.,

Telegrams and Cables } Usapacol. Cent, London. 11 b Upper Thames Street, E.C. 4. Telephone { City 122.
 129.

Telephone :
6231 CENTRAL.

Telegrams :
"FISKEBYAG, LONDON,"
Code 5th Ed. A.B.C.

ERIK FERNSTROM,

171, QUEEN VICTORIA STREET, LONDON, E.C.4.

Papermakers' Agent and Merchant - -

Supplier of -

M.G. PURE SULPHITE, excellent quality for bag making.

M.G. SULPHITE WRAPPINGS.

M.G. MECHANICAL CAPS.

GREASEPROOFS.

TISSUES.

M.G. THIN SULPHITE, excellent for Waxing purposes.

KRAFT PAPERS.

GLAZED PRINTINGS.

NEWS.

ETC.

SOLE AGENT in the United Kingdom for --

Fiskeby Fabriks Aktiebolag.,

SWEDEN.

FISKEBY MILLS.

LJUSFORS MILLS.

SKARBLACKA MILLS.

Makers of 30,000 Tons of Paper per annum.

Telephone No.:
CITY 680.

Telegraphic Address: "OLDRUSEN, LONDON."
Code: Fifth Edition A B C

T. V. OLSEN,

LAMBERT HOUSE, 10-12, LUDGATE HILL,
And 2-3, AVE MARIA LANE, LONDON, E.C.

Papermakers' Agent & Merchant.

SPECIALITIES:

**KRAFT PAPERS, M.G. SULPHITE
PAPERS, TISSUES, GREASEPROOF
and all Classes of Paper for Bag Makers.**

EXPORTERS OF PAPER
are asked to send their enquiries.
Papermakers and Board Mills are
invited to send offers of any class
of Papers and Boards, and also
stock lines of any kind. Prompt
Settlements.

Sole Agent for Great Britain and Ireland for

Torps Brug Aktieselskab,

FREDRIKSSTAD, NORWAY,

Makers of UNGLAZED & M.G. KRAFTS

Wargöns Aktiebolag,

WARGÖN, SWEDEN

Makers of M. G. SULPHITE PAPERS,
Pure and Mixed.

The Cost of a Paper Machine Wire can be figured only on the basis of Service Rendered

Rapid strides are being made to-day in combining metals to produce a result which will give greater service.

A metal has been perfected for the manufacture of wires, other than Fourdriniers, for paper and pulp mills, called NICKEL ALLOY.

O'NEILL NICKEL ALLOY WIRES have demonstrated by their performance in some of the largest mills in the United States, that their life and service show approximately 400 % better investment for the pulp and paper manufacturers. Upon request testimonials will be gladly submitted.

We recommend that you try the O'NEILL NICKEL ALLOY WIRES. They cost more but they are worth it.

We also manufacture very durable paper machine wires of brass and bronze in plain, double warp, triple chain and twisted weaves.

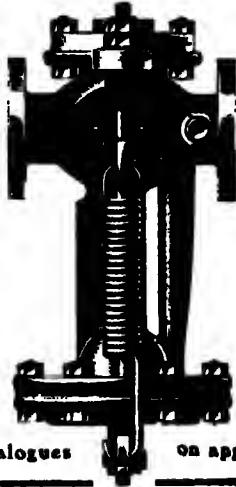
Joseph O'Neill Wire Works
Southport - Connecticut, U.S.A.

AULD'S Patent REDUCING VALVES

are well-known to ENGINEERS in
PAPER MILLS throughout the world.

Our New Patent "QUITETITE" Valve

is highly
recommended
for its
SIMPLICITY
and has
already
established
itself as



THE MOST
ACCURATE
& RELIABLE
REDUCING
VALVE
ON THE
MARKET
TO-DAY.

*We have
received*

NEARLY A
HUNDRED YEARS'
EXPERIENCE
IS BEHIND OUR
VARIOUS
SPECIALITIES, VIZ.,

*countless
Repeat Orders.*

REDUCING, SAFETY,
SURPLUS AND STOP
VALVES,
AUTOMATIC
EXHAUST VALVES,
ETC.

Catalogues on application.

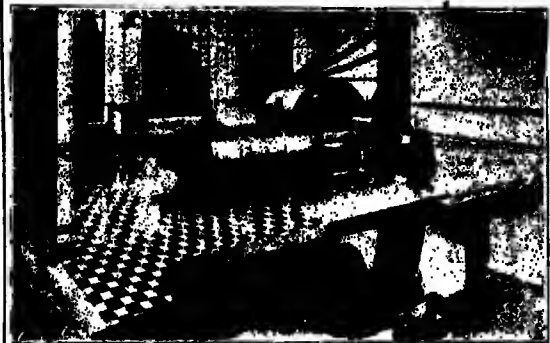
DAVID AULD & SONS, Ltd.
WHITEVALE FOUNDRY, GLASGOW.



Cole, Marchent & Morley Ltd.
Telephone 714 Bradford Telegraph 1140, Bradford.

O., M. & M.

CENTRAL EXHAUST STEAM ENGINES, with Piston Drop
Valves, and Patent Combined Drain, Exhaust and Relief Valves.
HEAT EXTRACTION ENGINES for installations where
Steam is required in the works for heating or process work.
Catalogues gladly sent on request.



1,000 H.P. C. M. & M. Central Exhaust Steam Engine Installation.

UNIFLOW STEAM ENGINES.



— Specially suitable for Paper Makers. Strongly built. —
— Very Reliable. High Economy. —

HICK, HARGREAVES & CO. LTD.,
BOLTON, ENGLAND.

ESTABLISHED 1832.

Telegrams: "HICK, BOLTON." Phone: 1373.

Makers of Corliss, Drop Valve and Uniflow Steam Engines, Diesel Oil Engines, Condensing Plant, Mill Gear'ng.



AKTIEBOLAGET HELSINGE TRÄEXPORT

(Formerly Arvid Ordqvist.)

OFFICES: SOMMEN, SWEDEN.

Shipments from Baltic Ports and Gothenburg.

Yards at Söderhamn, Gefle, and Gothenburg.

About 12,000 standards per annum.

EXPORTERS OF SAWN AND PLANED WOOD GOODS,
WOOD-TAR AND TURPENTINE.**BOXBOARDS & WOODPULP**

Shipping Marks for Sawn and Planed Goods:

1sts	-	-	H	†	T	4ths	-	-	H	-	T
2nds	-	-	H	†	T	5ths	-	-	H	V	T
3rds	-	-	H	+	T	6ths	-	-	H	W	T

Unsorted; Helsing.

Telegraphic Address: "Helsing, Sommen."

**HANDELSFIRMAN SOLO
STOCKHOLM C. SWEDEN.**

Export of

**Scandinavian Paper
Pulp and Boards**

all kinds.

Commission Merchants and Agents.

Telegraphic Address—"SOLO, STOCKHOLM."



**Telegraph Tape.
Perforator Rolls.
Cable Recording Rolls.
Cash Register Rolls.
Adding Machine Rolls.**

WE ARE THE LARGEST MANUFACTURERS
OF VARIED SMALL ROLL PRODUCTS IN
AMERICA.

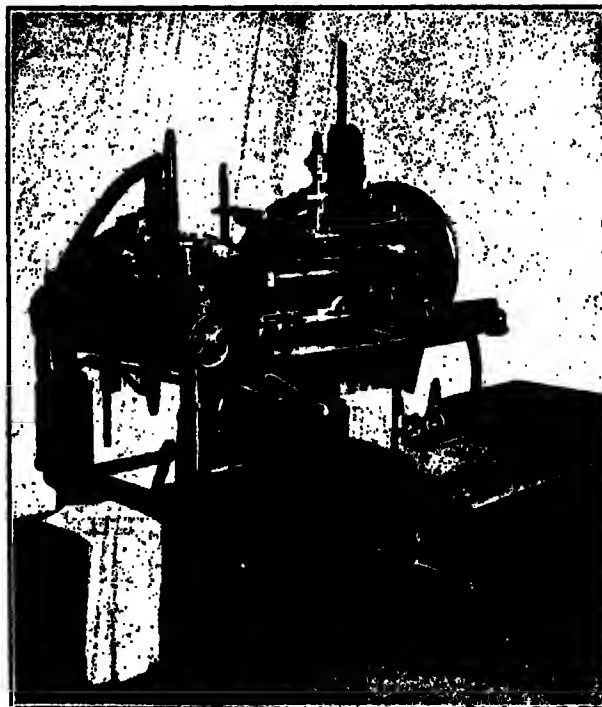
PAPER MANUFACTURERS CO., INC.

526, CHERRY STREET, PHILADELPHIA, P.A.

Cable Address: "Paman."

THE CARMIC

**AUTOMATIC ADJUSTABLE
ENVELOPE OR BAG FOLDING
MACHINE.**

BRITISH MADE THROUGHOUT.**ADVANTAGES OF 'THE CARMIC':**

1. Any size Envelope or Bag can be folded upon the "Carmic," within the specified range of each Machine which is practically unlimited.
2. The change from one size to another being carried out in about one hour. No additional boxes needed. Same box used for all sizes.
3. All classes of paper can be folded.
4. Out-put of Machines from 28,000 to 32,000 per day.
5. Does not require special skill to operate.
6. Very little motive power is needed to drive Machine.
7. Best material and workmanship throughout.
8. Space required for machine and operator, 7ft. x 5ft.
9. Machines supplied ready for working.



Prices and Particulars to be obtained from

Peter Carmichael & Co., Ltd.

303, SOUTHAMPTON STREET,
CAMBERWELL, LONDON, S.E.5.

Telephone:
Hop 479.

Telegrams:
"Encarmico, Camb,
London."

Do You know these Papers ?

THEY are Members of the British Association of Trade and Technical Journals, Ltd., a progressive organisation of over 150 journals, having as one of its chief objects the expansion of British trade through an efficient business Press.

These journals can help you if you need up-to-date information about any trade or industry, or if you want to know about new processes—or goods—or sources of supply.

They offer you the most effective means of finding new markets at home or overseas for the goods you produce or sell; they can help you to solidify and extend your present markets.

They invite enquiries on any technical or commercial matters in the various branches of industry they represent.



The address of any Paper in this list may be obtained from the Secretary of the

**British Association
of Trade & Technical
Journals, Ltd., :: ::**

Sicilian House, London, W.C. 1.

Telephone No. : HOLBORN 395.

Aeroplane (London).
Auto-motor Journal (London).
Auto-Cyclist (Sydney).
Bioscope (London).
Brewers' Gazette (London).
Brick & Pottery Trades' Journal (London).
British & Colonial Mineral Water Trade Journal (Cardiff).
British & Colonial Pharmacist (London).
British Baker (London).
British Journal of Photography (London).
Chemical News (London).
China Clay Trade Review (London).
Collectionary Journal (London).
Cora Trade News (Liverpool).
Dairy & Creamery Journal (London).
Dairyman (London).
Decorator (London).
Drapers' Organiser (London).
Electrical Industries & Investments (London).
Electricity (London).
Electrics (London).
Engineering Review (London).
Fancy Goods Record (London).
Fertiliser & Feeding Stuffs Journal (London).
Fine Art Trade Journal (London).
Flight & The Aircraft Engineer (London).
Footwear Organiser (London).
Freemason & Masonic Illustrated (London).
Hardwareman & Ironmonger's Chronicle (London).
Indian Medical Gazette (Calcutta).
Indian & Eastern Engineer (Calcutta).
Indian Motorist (Calcutta).
India Rubber Journal (London).
Journal of Decorative Art (Manchester).
Looming World (London).
"Locomotive" & Railway Carriage and Wagon Review (London).

Marine Engineer & Naval Architect (London).
Mechanical World (Manchester and London).
Milling (Liverpool).
Model Engineer & Electrician (London).
Motor Cycle & Cycle Trader (London).
Motor Export Trader (London).
Motor in Australia (Sydney).
Motoring in South Africa (Cape Town).
Motorist & Wheelman (Perth, W.A.).
Motor Magazine of Canada (Toronto).
Motor Trade of Canada (Toronto).
Motor Trader & Review (London).
Music Trades Review (London).
National Association Review (London).
N.Z. Motor & Cycle Journal (Auckland, N.Z.).
Organizer (London).
Outfitter (London).
Paper Box & Bag Maker (London).
Paper Maker & British Paper Trade Journal (London).
Photographic Dealer (London).
Power Laundry (London).
South African Motorist (Johannesburg).
South Australian Motor (Adelaide S. Australia).
Sports Trades Journal (London).
Stationery World (London).
Steering Wheel (Brisbane).
Sugar Journal, International (London).
Textile Manufacturer (Manchester).
Textile Mercury (Manchester).
Toys and Fancy Goods Journal (London).
Waste Trade World (London).
W.A. Motorist (Perth, W.A.).
World's Carriers and Carrying Trades' Review (London).

WAYAGAMACK



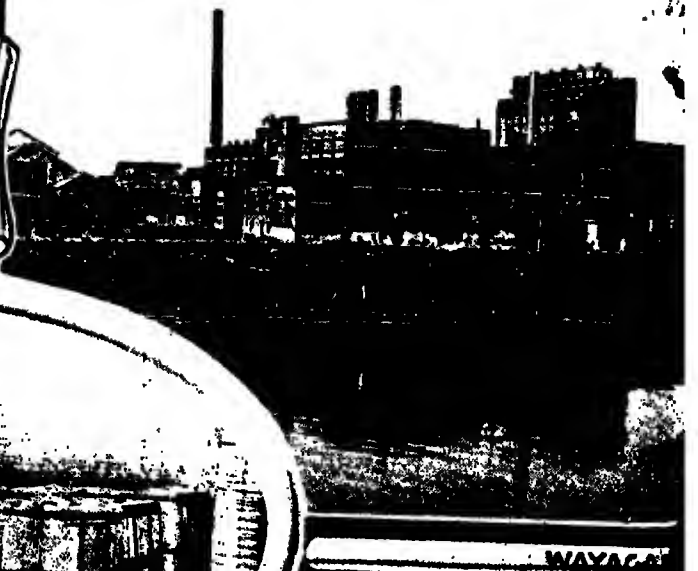
WORKS FROM LOG CONVEYOR



**Largest
Kraft Mills in
the World**



EXPORT BAILING

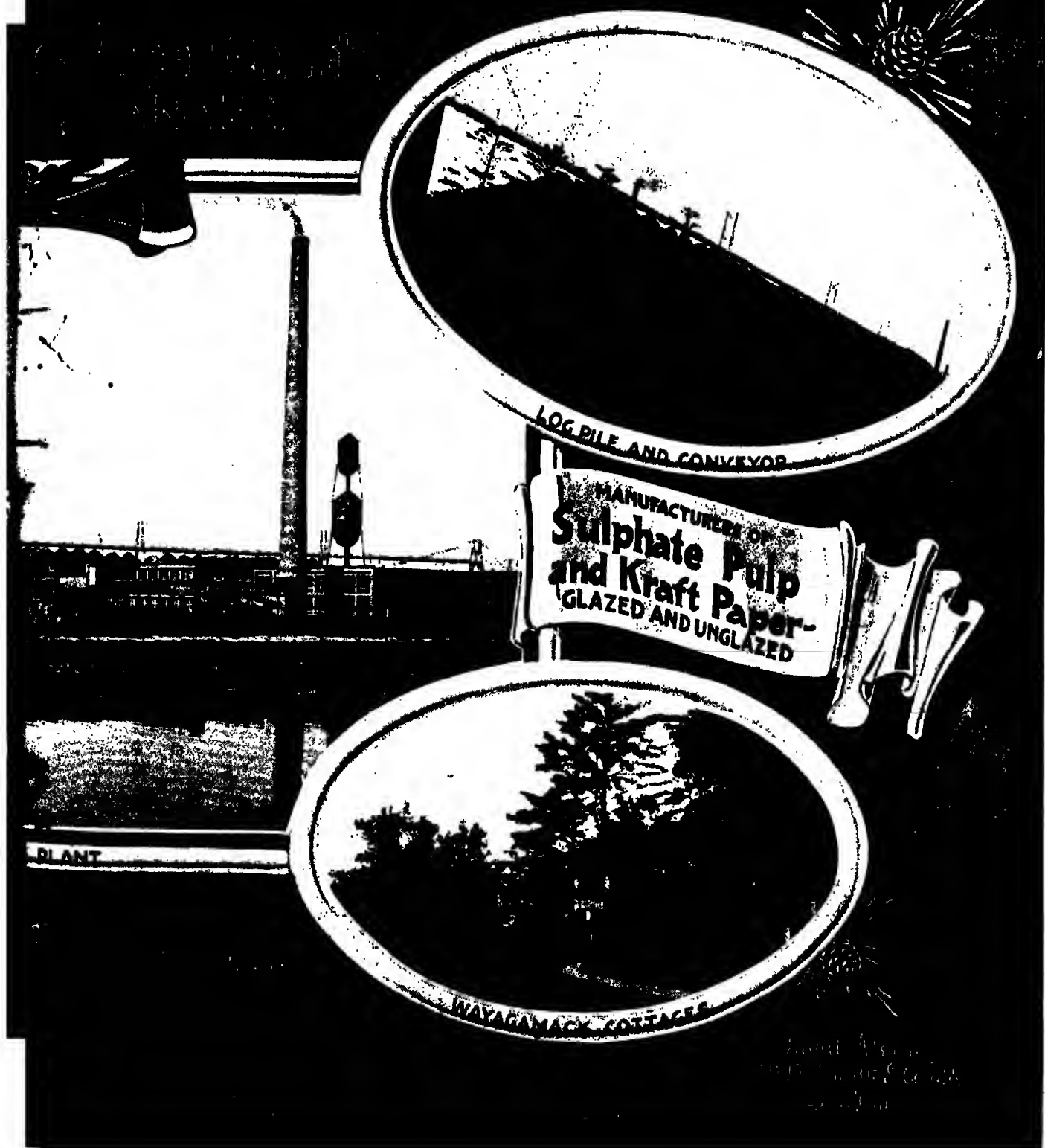


WAYAGAMACK

August 2, 1920.]

THE PAPER-MAKER AND BRITISH PAPER TRADE JOURNAL.

PURE KRAFT



LOG PILE AND CONVEYOR

MANUFACTURERS OF
**Sulphate Pulp
and Kraft Paper -**
GLAZED AND UNGLAZED

WAGAMACK COTTAGES

PLANT

WATER SUPPLIES.

for

BORE HOLES

and High Class

PUMPING MACHINERY.

Consult

WILLIAM M. MATTHEWS & CO LTD

Moston Lane
MANCHESTER.

MUSGRAVE'S FANS and HIGH-SPEED ENGINES.

For all purposes where
air requires to be moved.

—
**Induced Draft
for Boilers.**

—
Forced Draft.

—
Drying.

—
Dust Removal.

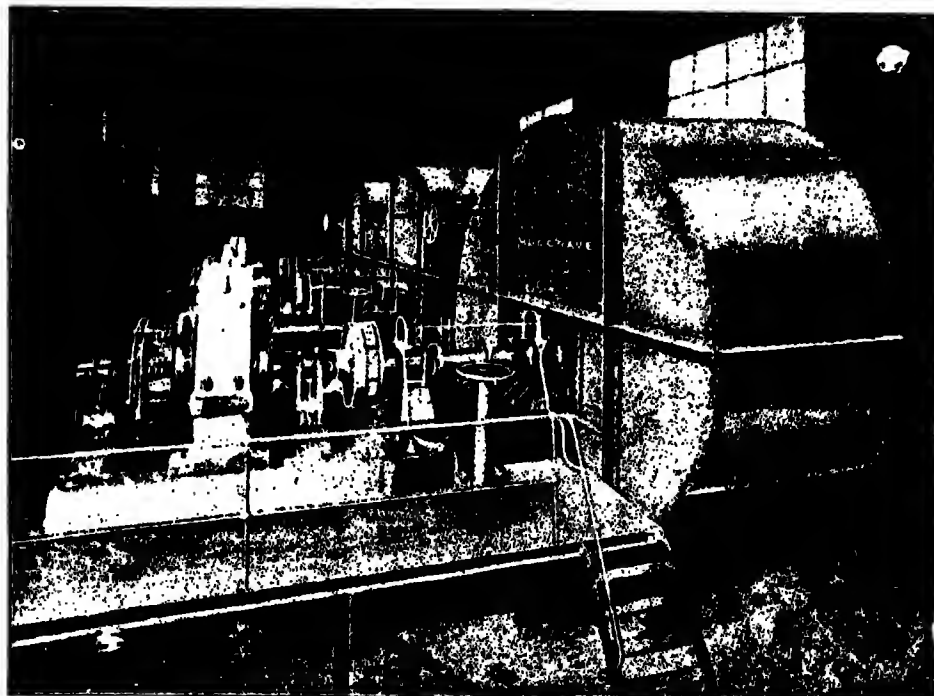
—
Complete Schemes Designed and
Installed.

—
MUSGRAVE & Co., Ltd.,

48, Deansgate, MANCHESTER
Sardinia House, Kingsway,
LONDON, W.C.;

24, Queen Street, CARDIFF.
Head Office;

St. Ann's Ironworks, BELFAST.



Three large Induced Draft Fans recently installed in the Corporation Power Station, Bradford.

THE UNITED WIRE WORKS LTD.

EDINBURGH, GLASGOW, & NEWCASTLE-ON-TYNE.



EDINA WORKS, EDINBURGH.



BALTIC WORKS, GLASGOW.



CARNTYNE WORKS, GLASGOW.

Paper-Machine Wires

ALL MESHES, AND UP TO 20 FEET WIDE.

CYLINDER COVERS.

**WIRE CLOTH of all kinds in Brass, Copper, Bronze,
and Steel, Plain, Tinned, Galvanised or Painted.**

GREENHALGH & CO.

Sulphite Sulphate — AND — Mechanical Pulp.



LONDON :

56, Cannon Street, E.C.

Wire: "INCITATUS."

'Phone: CITY 3382.

MANCHESTER :

15, Cross Street.

Wire: "INCREMENT."

'Phone 2827 CITY.

**Bronze Blue & Polishing Bronze Blue
Woodley Scarlet, etc., etc.**

ASHBROOKS LIMITED

46a, Market Street, MANCHESTER.

WOOD MILL,
Works: WOODLEY nr. STOCKPORT.

Tel.: 6377 CITY, MANCHESTER.
125 DENTON, WORKS.

Grants. ACETIC, MANCHESTER.
ACETIC, WOODLEY.

ALL COMMUNICATIONS TO MANCHESTER OFFICE.

Samples Matched on Shortest Notice.

Manufacturers of all Classes of Colours and Pigments.

**PARSONS'
PASS-OUT
TURBINES
to PASS-OUT
at ONE or TWO
PRESSURES**



C. A. PARSONS & CO. L^{TD.}

Heaton Works,

Newcastle-on-Tyne.

London Office :

8 Victoria Street, S W.1.

Lang Bridge Ltd.

Makers of Machinery for Paper Mills

Paper Coating Machines with
Festooning Arrangement (with
or without Turntable), Hot
Air Drying Apparatus, Self-
acting Rod Box, and Reeling
Apparatus.
Calenders.

Paper Brushing Machines
with three Large Circular
Brushes.
Re-reeling Machines.
Slitting and Cutting Machines.
Pasting Machines for three
 Webs of Paper.

Paradise Works, Accrington, Lancs.

J. E. SALVESEN & Co., Ltd.

AND

GORDON WATTS & Co.

Timber and Wood Pulp Agents

LONDON -

158, Fenchurch Street, E.C.3.

MANCHESTER -

448/450, Produce Exchange Buildings.

EDINBURGH -

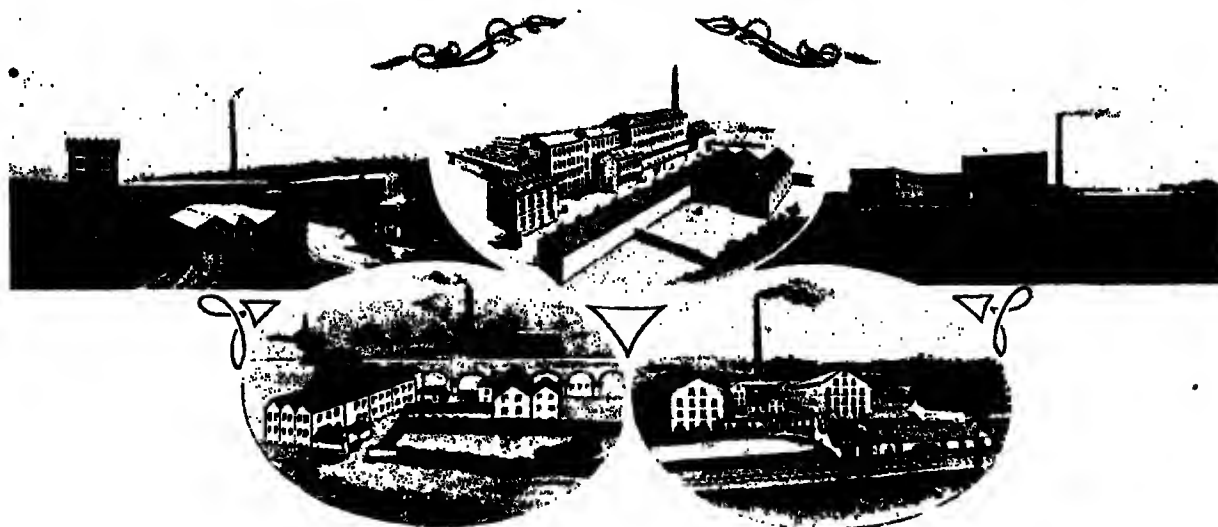
9, Greenhill Park.

Telegrams { Salvesen
Cornod } LONDON.

Salvesen
Cornod } MANCHESTER

Johanni EDINBURGH.

PORRITTS & SPENCER, LTD.



Telegrams :

EXPORT, BURY.

Telephones :

607 and 608 BURY.

Head Office :

BURY, - LANCs.

Branches :

PORRITT BRO. & AUSTIN, LTD.

JOSEPH PORRITT & SONS, LTD.

SAMUEL PORRITT & SONS, LTD.

J. H. SPENCER & SONS, LTD.

The Largest Manufacturers in the World
OF
PAPERMAKERS'
FELTS & JACKETS



SCEAANDO "HALF-WATT" TYPE LAMPS

CAN NOW BE SUPPLIED
IN THE FOLLOWING SIZES

PRICES AND
DISCOUNTS on
APPLICATION

200—260 VOLTS. 60 WATTS
100—130 VOLTS. 40 WATTS

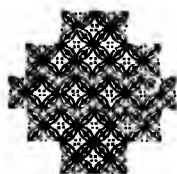
Crowther & Osborn, Ltd.

7, Blackfriars Street, Salford, MANCHESTER.

Lamp Works: BOLLINGTON, MACCLESFIELD
Glass Works: SALFORD and BREDBURY

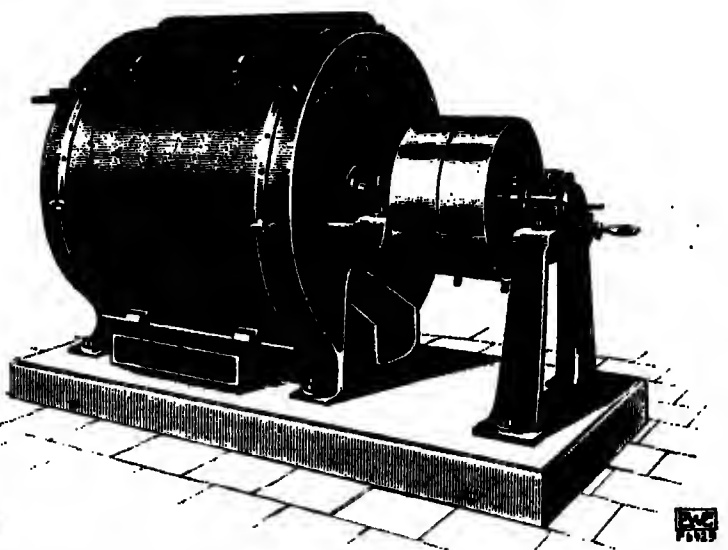
Telegrams: "CRANDOS."

Telephone: 7207 CITY.



ESCHER WYSS & CO. S.A.

Zurich (Switzerland).



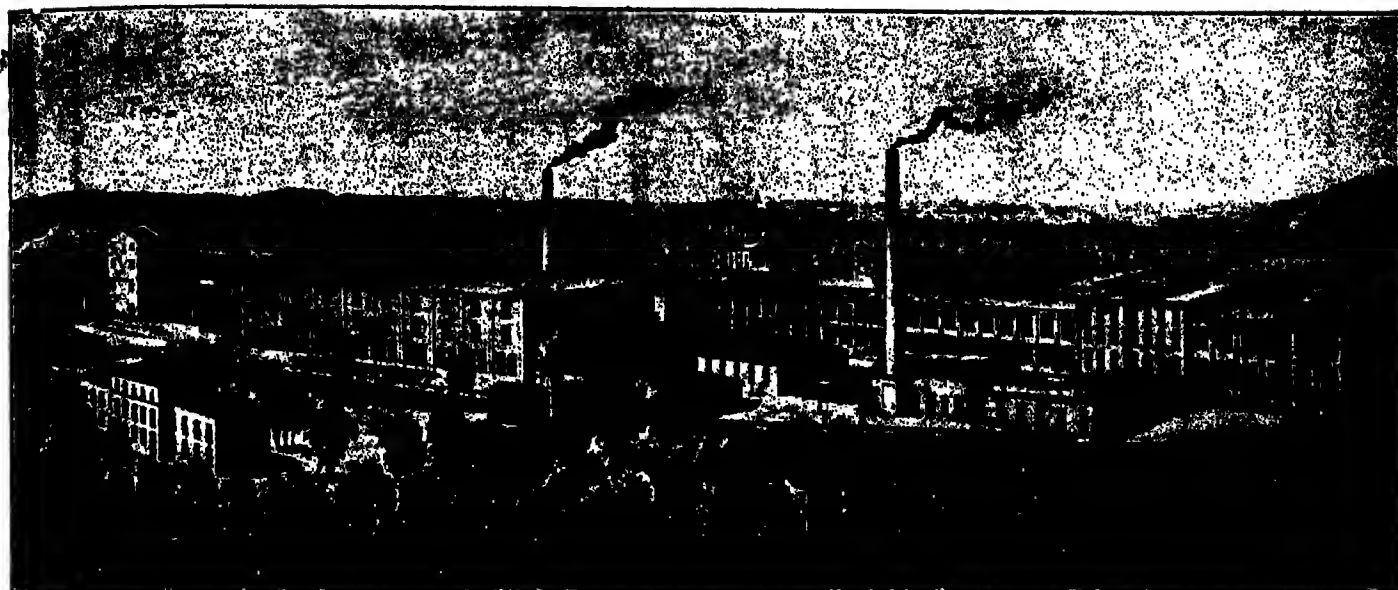
CENTRIFUGAL SCREEN FOR WOOD GRINDING MILLS.

COMPLETE PAPER MILL
INSTALLATIONS.

LONDON OFFICE:
109, Victoria Street, Westminster, S.W.

TOKYO OFFICE:
3, Uchisaiwaicho Itchome
Kojimachi-Ku.

MONTREAL OFFICE:
212, Coristine Buildings.



A VIEW OF ONE OF OUR MILLS. YEARLY OUTPUT 24,000 TONS

Write for Samples & Quotations to

R. L. LUNDGREN,

ESTABLISHED 1874.

LIMITED,

113, Queen Victoria Street, London, E.C.

and at 2, ST. ANDREW SQUARE, EDINBURGH.

Telephone No: 6058 City (Two lines).

Telegraphic Address: "Lundgren, Cent. London."

Fine Folding Enamelled and Faced Boards
REELS or SHEETS.

Fancy Papers. Leather Papers.
Wood Pulp Boards and Middles.

Specialists for the FOLDING BOX TRADE

U.K. Trade and World Exports.

HIGHEST GRADE
GLUES
AND
GELATINES

Extensively used for
Paper-Making and Paper Coating.
FREE OF GREASE AND ACID. MOST RELIABLE.

SUPPORT HOME INDUSTRY, AND SEND FOR SAMPLES TO THE MANUFACTURERS:

EDWARD GORTON, Ltd., PADDINGTON WORKS, **Nr. WARRINGTON.**

Branch Works : **CHESHIRE GELATINES,** Frodsham Bridge.

Charles Briscoe & Co., Ltd.
offer

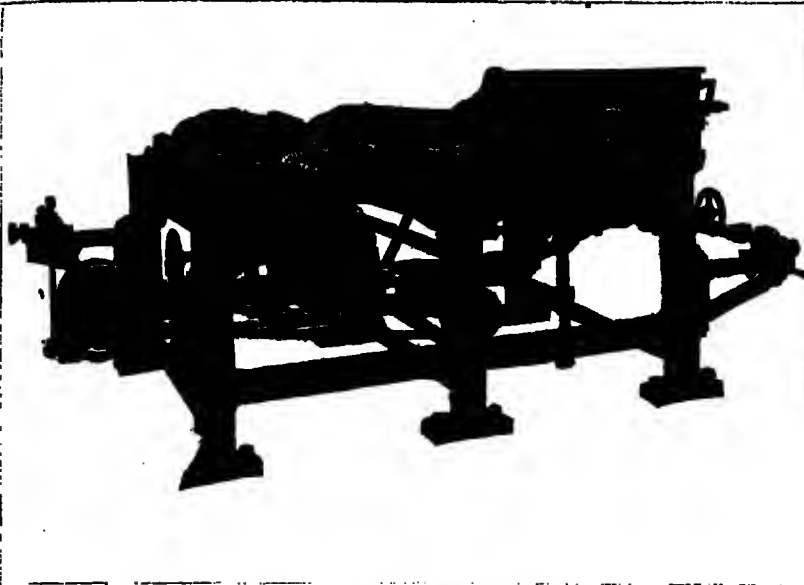
PAPER IN MANY
QUALITIES

from Warehouse and Mill.

77, KNIGHTRIDER STREET, LONDON, E.C.4.

Telegrams : Excharbris, Cent, London.

Telephone : City 5484.



BRUSHING MACHINE, QUADRANT ADJUSTING.

**We now specialise in all
auxiliary Machinery for
Paper Mills.**

Complete Plants for Gelatine and Emulsion
Plants for Photographic Paper

Baryta Coating Plants.

Art Enamel and Tin Foil Coating Plants.

Reeling Machines.

Brushing Machines

Super-Calenders for all purposes,
from 5 to 10 Bowls.

We also specialise in Woollen, Paper,
and Cotton Bowls for the Paper
Trade

Place your orders with a British Firm,
and keep the Paper-Making Machine
Industry at home.

All Patterns and Designs of the above
Machines can be supplied, also Elec-
trical Equipment to drive the plant, if
desired.

Park Works,
MANCHESTER.

Mather & Platt, Ltd.

Queen Anne's Chambers,
LONDON, S.W.

BERNER & NIELSEN

LONDON: 57, GRACECHURCH STREET, E.C.

Telephones:

London: Avenue 5435 (Two lines).
Manchester: City 1638.
Edinburgh: Central 53.
Paris: 141-12.
Brussels: 119-71.

Telegraphic Addresses:

"Berner, Grace, London."
"Berner, Manchester."
"Berner, Edinburgh."
"Nielsen, Paris."
"Bernielsen, Brussels."

MANCHESTER:
38, Deansgate.

PARIS:
24, Rue de Milan.
BRUSSELS:
28, Galerie de la Reine.

EDINBURGH:
13, George Street.

WOOD PULPS

Improvements in Calender Bowl Manufacture.

**Paper Bowls Built up on Patent
:: Anti-Slipping Principle. ::**

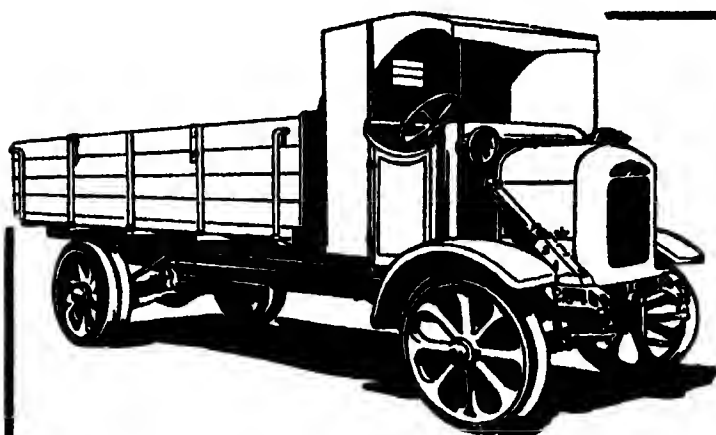
An Absolute Necessity for Wide Bowls.

**JACKSON & BROTHER, Limited,
Engineers and Calender Bowl Makers,
WHARF FOUNDRY, BOLTON.**

Telegrams:—"JACKSON, BOLTON."

Telephone:—No. 34 BOLTON.

Representative :—A. E. LEICESTER.



DIMENSIONS.

Wheel Base - - 14 ft. 6 ins.
Loading Space - - 15 ft. 8 ins.
Width Over-all - - 7 ft. 2 ins.
Total Length - - 22 ft. 8 ins.
Wheel Track - - - 6 ft.

For Goods: 3-5 tons.

WRITE FOR OUR "A" TYPE CATALOGUE.



*The Sign of
Strength and Stability*

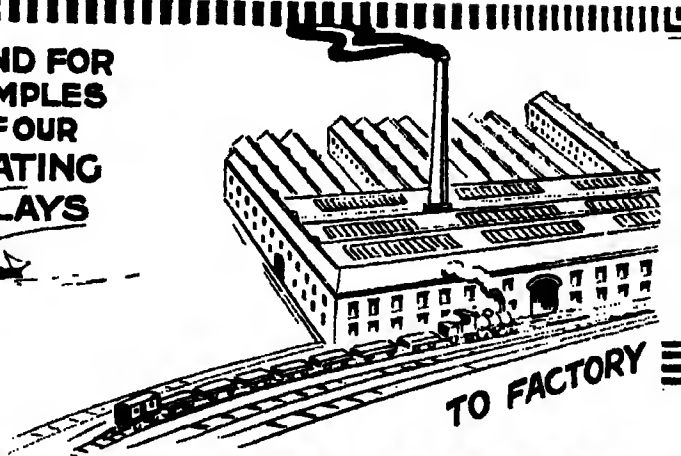
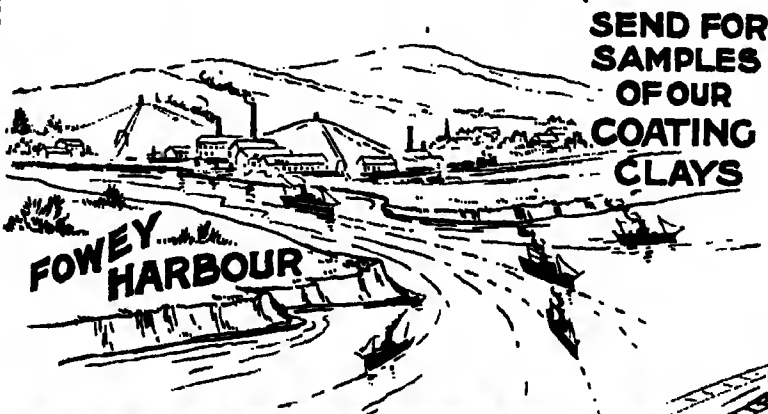
The Straker-Squire "A" type 55 h.p., 3-5-ton vehicle is of entirely new design, possessing great strength and power. Manufactured on sound technical lines with up-to-date machinery, and assembled by experts with the greatest skill, it is offered to the public at a reasonable price and with a substantial guarantee.

STRAKER-SQUIRE

LTD.

Angel Road, Edmonton,
LONDON, N.18.

Telephone: Tottenham 2393 (10 lines).
Telegrams: "Rhomboidal, Tottenham, London"



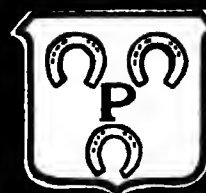
CHINA CLAY

ALL GRADES *FOR* PAPERMAKERS

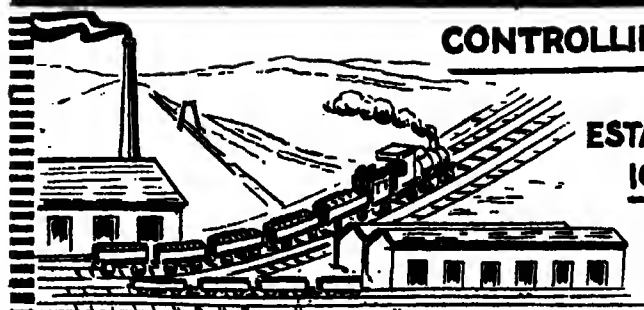
H.D. POCHIN & CO LTD

CHINA CLAY
MINEOWNERS. &
CHINA STONE
QUARRYOWNERS.

MANCHESTER



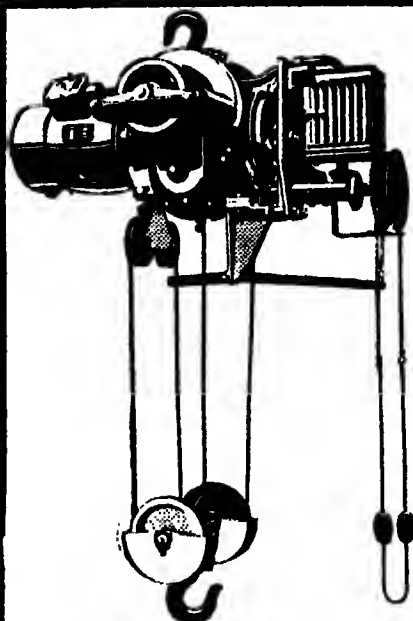
CONTROLLING 200,000 TONS ANNUALLY.



FROM MINE

**ESTABLISHED OVER
100 YEARS.**





THE VAUGHAN PATENT ELECTRIC BLOCK

SPEED-UP YOUR LIFTING WORK

THE VAUGHAN ELECTRIC BLOCK exactly satisfies a want which has been long felt in the Paper Making and Allied Industries, i.e., the need for a reliable, self-contained, and power-driven hoist, which can be slung up anywhere ready for instant use on the connection of a flexible supply cable, or when fitted to a trolley, for travelling on the bottom flange of an overhead "I" section runway track.

STANDARD SIZES:

5-Cwts., $\frac{1}{2}$ -Ton, 1-Ton, $1\frac{1}{2}$ -Tons, 2-Tons, 3-Tons and $4\frac{1}{2}$ -Tons.
Supplied for D.C. or A.C. 2-phase or 3-phase.

IT SOON PAYS FOR ITSELF.

A LABOURER CAN WORK IT.

Please ask for our Descriptive Booklet No. 7.

THE VAUGHAN CRANE Co., Ltd.

(FORMERLY VAUGHAN & SON, LTD.)

OPENSRAW, S. MANCHESTER.

Also Makers of Electric and Hand Power Travelling
Cranes, Overhead Runways, Hand Pulley Blocks, etc.

Telegrams: "VAUNTING, MANCHESTER."

Telephones: 256 OPENSRAW, 5113 CENTRAL.

A FEW USERS.

The Admiralty	London
The War Office	London
The India Office	London
The Ministry of Munitions	London
Darwen Paper Co., Ltd.	Darwen
Dixon, Peter & Co., Ltd.	Grimsby
Dickinson, J. & N., Ltd.	Hemel Hempstead
The European Paper Mills, Ltd.	Glenkilbride
Irish Paper Mills Co., Ltd.	Dublin
Spicer, James, & Sons, Ltd.	Malinstown
Thames Paper Co., Ltd.	Purfleet
Wallpaper Manufacturers, Ltd.	London
Rtc., Etc.	

The "PROCTOR" Shovel Stoker and Patent Ram Feed Coal Elevator.

AN IDEAL COMBINATION for SAVING COAL AND LABOUR, increasing steam production, and giving a clean boiler-house. The Stoker as a result of over 40 YEARS' practical working HOLDS THE PREMIER POSITION amongst Mechanical Stokers, and gives the HIGHEST BOILER EFFICIENCY WITH THE LOWEST COST OF UPKEEP.

OVER
16,000
FURNACES
FITTED.

Messrs. OLIVE & PARTINGTON

AND

KELLNER-PARTINGTON PAPER PULP Co., Ltd.,

have adopted the "PROCTOR" Stoker and Coal Elevator at their
TURN LEE PAPER MILLS, GLOSSOP on 20 furnaces
BROUGHTON BRIDGE PAPER MILLS, MANCHESTER .. 8 ..
BARROW-IN-FURNESS PAPER PULP WORKS 16 ..

AND ALSO AT THEIR PAPER WORKS IN AUSTRIA.

BURNLEY PAPER WORKS CO., LTD. 4 ..
HENDON PAPER WORKS CO., LTD., SUNDERLAND 8 ..
NORTH WALES PAPER CO., LTD., FLINT 6 ..
YATES, DUXBURY & CO., LTD., BURY 4 ..

JAS. PROCTOR, Ltd., Hammerton Street Iron Works, Burnley

Direct Current MOTORS



British built throughout.

Sound in construction, ensuring freedom from breakdown.

High in efficiency and free from commutation troubles.

Represent the latest practice as we make nothing else.

Competitive in price.



Electromotors Limited
OPENSHAW MANCHESTER

CLARKE, CHAPMAN & CO. LTD.

—Victoria Works—
GATESHEAD

General and Electrical Engineers and Boiler Makers

Water Tube Boilers ("Woodeson" Patents)
FOR ALL DUTIES

Pumps ("Woodeson" Patents)
IN ALL SIZES AND FOR ALL PURPOSES

Prices, Particulars and Catalogues on application

Telephones: 1070-1073 CENTRAL NEWCASTLE.
137 CITY

Telegrams
"CYCLOPS, GATESHEAD."
"CYCLOPS, FEN, LONDON."

JOHN MUSGRAVE

**Globe Iron Works,
BOLTON.**

Tel. Address :
"MUSGRAVE, BOLTON."
Codes : { A1,
A.B.C. 5th Edition.
BROOMHALLS.
Telephone No. 590 (3 lines).



For Economy, Reliability, and Compactness in Design, the
 "UNAFLOW"
 Patent Steam Engine is the ACME OF PERFECTION.

Before deciding your Order send for our Descriptive Pamphlet.

Also
Makers of
**HIGH-
CLASS**

Horizontal and Vertical Steam Engines,

Fitted with "Stegan Patent" Equilibrium Drop Piston Valves, specially adapted for High Pressures and Highly Superheated Steam, with LOW Steam Consumption, or fitted with Corliss Valves.

Lancashire Boilers, Up to 225 lbs. Pressure.

Superheaters, Millgearing,

The "Musgrave-Zoelly" Steam Turbine,

Condensing Plants,

Pumping Plants, etc.,

Over 500,000 h.p. at work.

VE & SONS LTD.



Makers of SPECIALITIES for PAPER-MAKERS

Vertical Wood Digesters.

Spherical Wood Pulp Digesters.

**Cylindrical and Spherical Revolving Boilers for Rags
and Straw.**

Vertical Boilers for Esparto.

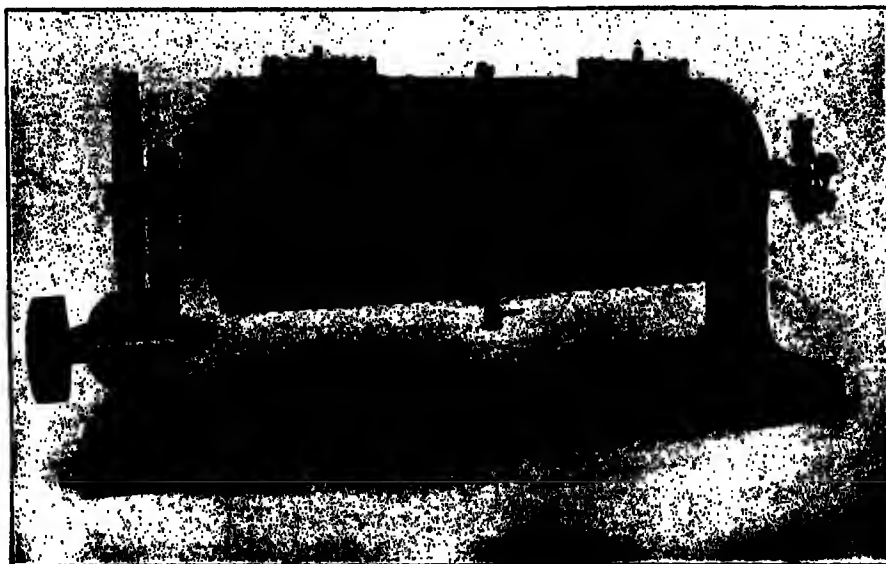
Steam Chests for Anaglypta Paper Machines.

Caustic Pans.

**Gas Pans
and Tanks.**

Lord's Patent Manholes

For Cylindrical and
Spherical Revolving Boilers.



YOUR ENQUIRIES
ARE SOLICITED.

"THE CHINA CLAY TRADE REVIEW."

*The Official Organ of the
China Clay Industry.*

Published the 15th of each month.

PRICE 6d.

Post Free British Isles, 7/6.

Colonies and Abroad, 10/6.

The only monthly journal devoted to the interests of all engaged in the CHINA CLAY, AND STONE, BALL CLAY, FELSPAR AND ALLIED INDUSTRIES, and circulating amongst Potters, Paper-makers, Chemical Manufacturers, Manufacturing Chemists, Bleachers, and other users.

PUBLISHING OFFICES :

9-10, SOUTHAMPTON BUILDINGS, HOLBORN, W.C.2.

DYESTUFFS FOR PAPER TINTING.

Auramine O. Methylene Blue BB.
Ponceau R. Acid Scarlet 2R.
Orange 11. Chrysoidine.



THE
SANDOZ CHEMICAL CO.
LIMITED.

9, VICTORIA CHAMBERS,
LITTLE HORTON LANE,
BRADFORD, YORKS.

24, TIE LANE,
CROSS STREET,
MANCHESTER.

(Sole Consignees in Great Britain for Sandoz Chemical Works, Basle.)

Agents:

LONDON: Skilbeck Bros., 205, Upper Thames Street, E.C.4.
GLASGOW: Charles Hogg & Co., 9, Royal Exchange Square
LEICESTER: A. W. Brook, 56, Charles Street.

S. C. PHILLIPS & CO.'S STANDARD PUBLICATIONS

**THE PAPER MAKER and
British Paper Trade Journal**

with which is incorporated

THE WOOD PULP MAKER.

An Independent and practical Journal for the Paper, Wood Pulp and Allied Engineering Trades.

Published on the 1st of each month. Price 1s. 6d.; by post, 2s.
Annual Subscription, £1 1s., post free.

THE STATIONERY WORLD

**Printing and Allied Trades
and Fancy Goods Review,**

with which is incorporated

The Toy World and Games and Sports Record.

An Independent organ specially devoted to the Stationery, Printing, Toy, Fancy Goods and Allied Trades.

Published on the 1st of each month. Price 1s.; by post, 1s. 6d.
Annual Subscription, 10s. 6d., post free.

THE PAPER BOX & BAG MAKER

including

The Bookbinders' Journal.

The only Journal specially devoted to the Paper Box, Bag Making and Allied Trades.

Published on the 15th of each month. Price 1s.; by post, 1s. 6d.
Annual Subscription, 10s. 6d., post free.

PHILLIPS' PAPER-TRADE DIRECTORY OF THE WORLD

A mass of information for all engaged in the paper trade. Published Annually. Subscription, price £1 1s.

Offices: 47, Cannon St., E.C.4.

ANDREWS & CO.,

LIMITED,

BLACKFRIARS HOUSE, NEW BRIDGE ST.

LONDON, E.C.4.

And at Manchester and Glasgow.

**Sulphite, Soda, and
Mechanical . . .**

WOOD PULP

Telegraphic Address: "ARBORARIUS," Fleet, London.
Telephone Numbers: City 5913 & 5914.

STOTT LINE BALTIC STEAMERS

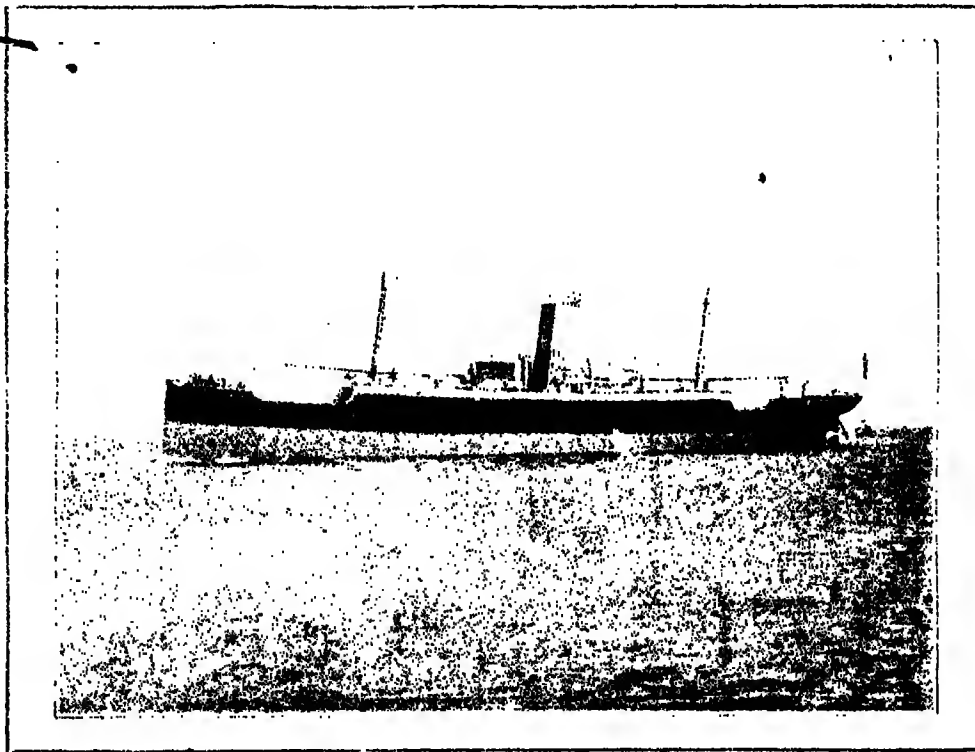
Regular Line of Steamers
to Preston, Manchester,
and Liverpool,
from Baltic Ports,
and *vice versa*.



Through Rates Quoted
to and from
all Baltic Ports,
also
Inland Towns.

SPECIALISTS in dealing with the TRANSPORT and forwarding of

WOOD PULP



Careful supervision on Discharge from Steamer, and Loading to Wagons or Warehouse. Customs entries passed. Sampling attended to. Deliveries advised.

W. H. STOTT & CO., Ltd.,

7 Brasenose Street, Manchester; 17 Fenwick Street, Liverpool;

Also at PRESTON.

Steamship Owners and Brokers,
Insurance and
Forwarding Agents.

Telegraphic "Stottiner, Manchester."
Addresses "Stott, Liverpool."

Telephone No. 2384
Telephone No. 8007 Central.

For full particulars and
advice at lowest rates.

Belgian State Railways and Mail Packet Service Dover - Ostend Royal Mail Route

DAILY EXPRESS SERVICES (Sundays Included)

LONDON & BRUSSELS

ANTWERP, COLOGNE, LUXEMBOURG, etc.,

Via DOVER-OSTEND

SEA PASSAGE BY THE BELGIAN GOVERNMENT'S FAST TURBINE STEAMERS

The 24 Hours System for Railway Time (reckoning the hours from midnight to midnight), is used for all the Railway Times shown in this notice.

OUTWARDS.			HOMEWARDS.		
		1, 2 & 3 class			1, 2 & 3 class
London (Charing Cross)	dep.	8.45	Bale	dep.	17.9
Dover (Marine Station)	arr.	10.35	Strasbourg	dep.	20.19
	dep.	11.30	Luxembourg	arr.	0.29
Ostend (Quay)	arr.	15.30	Cologne	dep.	4.35
	dep.	16.45	Antwerp	dep.	23.20
Brussels (Nord)	arr.	19.10	Brussels (Nord)	dep.	2.0
Antwerp	arr.	21.22	Ostend (Quay)	arr.	12.0
Cologne	arr.	1.49	Dover (Marine Station)	dep.	18.0
Luxembourg	arr.	1.0	London (Charing Cross)	arr.	20.50
Strasbourg	arr.	5.0			
Bale	arr.	7.33			
		8.41			

The above Services are liable to alteration or cancellation without previous notice, and the Times are in Summer Time, both British and Belgian

Through Carriages Ostend to Antwerp, Cologne, Luxembourg and vice-versa. Sleeping Cars from Ostend to Cologne and vice-versa.

For further information, apply:

Mr. P. DEFRANCE, Delegate of the Belgian State Railways,

47, Cannon Street, London, E.C.4. Telephone No. 5711 Central

For information and tickets apply to the Ticket Office of the Belgian State Railways and Mail Packet Service, 53, Gracechurch Street, E.C.3, or to the principal tourist agents in the United Kingdom.

For information regarding devastated districts in Belgium, apply to the Office Central d'Information, 54 Rue des Colonies, Brussels.

SOCIETY OF CHEMICAL INDUSTRY,

BASLE - - SWITZERLAND.

Largest Manufacturers
of Aniline Colours
outside Germany.

EMPLOYING OVER 3,000 PEOPLE

SPECIALITIES FOR PAPER.

SEND YOUR SAMPLES OF COLOUR FOR MATCHING
TO THEIR AGENTS:

THE

CLAYTON ANILINE
CO., LTD.,

CLAYTON - - MANCHESTER.

ANILINE DYES

SPECIALITIES FOR PAPERMAKERS.

ACID YELLOW LD
NAPHTHOL YELLOW S
ORANGE GG
" RR
" I
" II
PONCEAU 4GB
" 2G
" R
" 5R
FAST RED B
CRYSTAL SCARLET
INDIGO CARMINE
MAGENTA
METHYL VIOLET
MALACHITE GREEN,
ETC.

**THE LONDON DYE
—MANUFACTURING CO., LTD.,—
86-94, High St., STRATFORD, E.15.**

Telephone: Stratford 851.

Telegrams: "LODYMAKO, BOCHURCH LONDON."

DON'T WAIT

Until the War is over.

Now is the time to do BUSINESS WITH SCANDINAVIA, where trade, especially in Paper and Wood-pulp, has received an enormous impetus on account of the War, and where everyone is on the lookout for opportunities.

An advertisement in a good Scandinavian Paper and Wood-pulp Journal would help you. IF YOU ARE AN AGENT, an advertisement would make your name more widely known throughout the trade in Scandinavia, or, IF YOU ARE A MANUFACTURER OF MACHINERY OR PAPER-MAKERS' SUPPLIES it would help you to get a good share of the Scandinavian Trade.

THE

"TIDSSKRIFT FOR PAPIRINDUSTRI"

is published in Christiania, Norway, and circulated throughout the trade in Norway, Sweden, Denmark, and Finland, and is also subscribed to by a number of English and American Firms.

WRITE FOR ADVERTISING RATES AND A SPECIMEN COPY.

Information regarding the Scandinavian Markets furnished gratis

LONDON OFFICE:

GUMÆLIUS LIMITED,
SCANDINAVIAN ADVERTISING SPECIALISTS,
11, Arundel Street, Strand, London, W.O.2.

Three-Throw Stuff Pump

MAKERS
of
FULLNER FILTERS
STEAM ENGINES
GEARING ETC.



— DELIVERY FROM STOCK —

ASHTON FROST & COMPANY, LTD.

ENGINEERS

Telegrams: "FOUNDRY" BLACKBURN · ENGLAND

Telephone: No. 4275

W. RALSTON & CO.

LTD.

CLOUGH ROAD WORKS,
MOSTON LANE, MANCHESTER.

Telegrams "RALSTONITE, MANCHESTER." Phone: 551 CHEETHAM HILL.

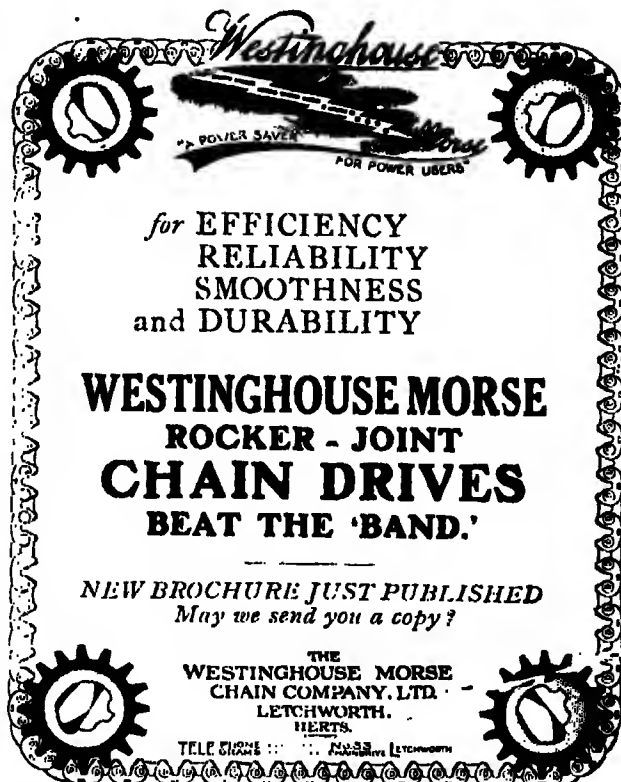
MANUFACTURERS OF

**Kraft Union Waterproof
Patent Packing,
Waxed Tissues,
Oil Papers,
Pitch Papers,
Etc. Etc.**

IN SHEETS OR ROLLS IN ALL STANDARD SIZES,
also in NARROW WIDTH REELS AND CIRCLES

SAMPLES AND PRICES ON APPLICATION

London Office:
30, BUDGE ROW, E.C.4.
(Phone: CITY 8638).



Westinghouse

POWER SAVER
FOR POWER USERS

for EFFICIENCY
RELIABILITY
SMOOTHNESS
and DURABILITY

**WESTINGHOUSE MORSE
ROCKER - JOINT
CHAIN DRIVES
BEAT THE 'BAND.'**

NEW BROCHURE JUST PUBLISHED
May we send you a copy?

THE
WESTINGHOUSE MORSE
CHAIN COMPANY, LTD.
LEITCHWORTH,
HERTS.
TELEPHONE: 1111 LETCHWORTH

Catalogue on
Application.

We would gladly advise you in regard to
new installations or existing drives which
may be causing you belt or other trouble.

Telegrams—Kraftship, Manchester.
Telephone—City 2458.

WESTWELL, Ltd.

Paper Importers
and Exporters,

Lloyds Bank Bldgs.,
King Street,
Manchester.

Wrappings

Krafts,
Sulphites,
Greaseproofs,
in Sheets or Reels.

LONDON OFFICE:—

97, Queen Victoria Street, E.C.4:

Telegrams—Papimpex, Cent, London.
Telephone—Central 8007

Telephone - - City 6115
Telegrams - - Anglonorse, Cent, London

ANGLO-NORSE PAPER AGENCIES LTD.

VULCAN HOUSE, 56 LUDGATE HILL
LONDON - - - - - E.C.4

Manager: F. A. MARSDEN

Sole Agents in the United Kingdom for
RENA KARTONFABRIK,
A/S RENA, NORWAY.
WOODPULP BOARDS FOLDING BOARDS.
DUPLEX AND TRIPLEX BOARDS.

Sole Agents (except Scotland) for
JARLSBERG PAPER MILLS,
CHRISTIANIA.

M/V & S/C PRINTINGS. WRITINGS.
BANKS. GLAZED AND UNGLAZED.
BONDS. IMITATION PARCHMENTS.

Sole Agents in Eng and for
STANDARD PAPIRINDUSTRI,
A/S QULSKOGEN, NORWAY.
TOILET ROLLS.

**NOW
ON
SALE**

**PHILLIPS'
Paper Trade Directory
OF THE WORLD**

**FOR
1920.**

Published
at

21/-

by

S. C. PHILLIPS & CO., 47, Cannon Street, London, E.C.

ORDER AT ONCE TO PREVENT DISAPPOINTMENT!

PRICE & PIERCE, Ltd., LONDON.

WOOD AND PULP.

*Branches:—*Liverpool, Manchester, Glasgow and New York.

SITES for . . . WORKS, FACTORIES WAREHOUSES, etc. ADJOINING THE G.W.R.

Numerous areas of land, admirably situated.

Good Water Supplies. Proximity to Good Markets.

This Railway is connected with some of the largest Steam, Anthracite, and House Coal Fields, many of the Principal Ports, and important and extensive Iron and Steel Producing Centres.

Information as to suitable sites, siding facilities, conveyance rates, etc., will be readily afforded on application to Mr. C. A. ROBERTS, Chief Goods Manager, Paddington Station, London, W.2, to whom Owners and Agents of Land and Premises for Sale or to be Let are invited to send particulars for insertion in the Register which is kept to enable information to be furnished to parties requiring sites, etc.

G.W.R. Paddington Station, W.2.
November, 1916.

CHAS ALDINGTON, General Manager.

From Barrel to Beater



**AMBER
SIZE**

Mr. R. W. SINDALL, F.C.S., says:

"This is about the best prepared Size I have seen."

W/E guarantee a saving in any case—
whether you are making your own Size,
OR

Whether you are making your size by any patent
apparatus, OR

Whether you are buying a prepared Size.

We send our Expert to your Mill to prove this. He will
demonstrate the advantages, and show you how it is used.

We supply sufficient **AMBER SIZE** for the trial **FREE OF CHARGE**. We
take all responsibility for the Paper Sized with **AMBER SIZE** by our Expert

Sole
Agents: **FOX, STOCKELL & CO.,**
61, ST. MARY AXE, LONDON, E.C.

ADOPTED BY LEADING MILLS
because of the saving effected

CASEIN

FOR PAPER COATING.

NIEUWHOF, SURIE & CO., LTD.,

Head Office :
5, Lloyds Avenue,
London, E.C. 3.

Telephones:
AVENUE 34 & 35.

Works & Warehouses :

Aldgate Avenue,
London, E.

Telegrams :
"SURICODON, CENT., LONDON."

Keep Your Wires Clean !!

Our **ROTARY CLEANING ATTACHMENT** for Paper Machine Wires is simple, efficient, and cleans wire whilst machine is running. Many in use. Write for particulars.

BRUSHES

for Art Tinfoil and
Coated Paper Makers

COATING AND STAINING BRUSHES
CIRCULAR-FRED BRUSHES
PAPER-DAMPING BRUSHES
BRUSHING & POLISHING CYLINDERS

John Dawson & Son

Eldon Brush Works, St. Phillip St., LEEDS

THE Indentors' Guide

Pays Advertisers.

IF you wish to introduce your new products in

INDIA

or to increase the sale of your Old Products
Advertise in "THE INDENTORS' GUIDE,"
IT BRINGS RESULTS.

Its Special Feature is that Advertisers' Goods are
accepted in Contra. placed on the Market to
Advantage and Repeat Orders are regularly sent.

For Sample Copy and Rates address—

S. P. MASON, Bangalore, INDIA.

London Agents—STIRLING, MASON & CO., 114 Fenchurch Street, E.C.

L'Industria Della Carta:

via Principe Umberto, 24, MILAN

A Practical Journal for the Manufacture
of Paper and the Graphic Arts. ::

THE ONLY TECHNICAL JOURNAL THAT IS PUBLISHED IN ITALY.

It is recommended as being greatly appreciated
and having a wide circulation :: ::

The Editor-Proprietor, Mr. ENRICO TONIOLO, Milan, devotes him-
self specially to the sale of **MACHINES & MATERIALS**
connected with the manufacture of Paper and the Graphic Arts.

Catalogues and Offers Gladly Received.

GEO. F. HARDY,

Mem. Can. Soc. C.E., M. Am. Soc. M.E., Mem. Eng. Inst. Can.

PAPER MILL ARCHITECT
AND
HYDRAULIC ENGINEER.

REVALUATIONS. REPORTS.
WATER POWER DEVELOPMENTS.

309, Broadway, New York,
U.S.A.

HARDY S. FERGUSON,
CONSULTING ENGINEER,

200, FIFTH AVENUE, NEW YORK CITY.

MEMBER Am. SOC. M. E.

MEMBER Am. SOC. C. E.

MEMBER Eng. INST. CAN.

Paper, Pulp and Fibre Mills
including Buildings and Com-
plete Mechanical Equipment.

Water Power Development.

Dams, Storage Reservoirs and
Other Hydraulic Structures.

EXAMINATIONS
REPORTS

ESTIMATES OF COST
DESIGNS
SPECIFICATIONS
VALUATIONS

PRESERVO BELT FOOD

Feeds the Belts and Elim-
inates all Slip. A perfect
Drive with Slack Belts.

SOLE MAKERS:

S. REDFERN & CO.,

SWAN LANE, NEW BROWN ST., MANCHESTER.

BOLETIN DE LA INDUSTRIA Y COMERCIO DEL PAPEL

A fortnightly Spanish Review of Paper-making and Trade generally.

The best Spanish Paper Review (prodigally illustrated), is published
on the 1st and 15th of every month, in 194 by 264 cm. size, with
more than 60 pages of letterpress on superfine glazed art paper.

Subscription price 15 fr. per year.

Terms for Advertising can be obtained upon application to our
representatives for the United Kingdom, viz.:-

S. C. PHILLIPS & CO.,

Publishers of "THE PAPER-MAKER."

47 CANNON STREET, LONDON, E.C.

Established 1858.

JEBB BROTHERS, Ltd.,

**IMPORTERS and
EXPORTERS.**

ADDITIONAL WAREHOUSES: BUXTON ST., CRAWHALL RD., CITY RD.

Head Office:

**32, Howard Street,
Newcastle-on-Tyne**

Warehouses:

**HOWARD STREET, CITY ROAD,
AND CRAWHALL ROAD.**

YORKSHIRE

WOOLLEN RAG DEPT.:

**Carr Top Mills, Batley Carr,
Batley, Yorks.**

Telegrams:
Jebb, Newcastle-on-Tyne.
Jebb, Dewsbury.
Jebb, North Shields.

Telephone Nos.
5836 and 5838
**CENTRAL, NEWCASTLE.
342 NORTH SHIELDS.
58 DEWSBURY.**

CODES:
A.B.C. 4th, 5th, and 6th EDITIONS
and WASTE MERCHANTS' Code.



HOWARD ST. WAREHOUSE.

DEPARTMENTS.

WOOLLENS.

New and Old Mungo and Shoddy
Rags, Hosiery, Stockings, Merinoes,
etc., etc.

WASTE RUBBER, ETC.

All Grades of Waste Rubber,
Curled Hair, Hair Basting, Second-
Hand Bags, Etc., Etc.

METALS.

Scrap Iron, Copper, Lead, Zinc,
Zinc and Lead Ashes, Scrap Iron
and Metals.

PAPER-MAKING MATERIALS.

New and Old Linen and Cotton
Rags, Bagging, Ropes, Twines,
Garves and Waste Papers.

NO CONNECTION WITH ANY OTHER FIRM.

Having extensive warehouse accommodation, equipped with all modern requirements for dealing expeditiously with large quantities of goods, at Newcastle-on-Tyne (Station address, New Bridge Street), and Batley Carr, Yorkshire (Station address, Dewsbury), customers may rely upon their consignments, whether large or small, receiving prompt attention.

Dealers in Lancashire, Cheshire, and the Midland and Southern Counties, should consign their Woollen Rags of all descriptions to our Yorkshire Mungo and Shoddy Rag Department, Carr Top Mills, Batley Carr, Batley.

THIRY & CO., Belgium.

PAPER MAKERS' ENGINEERS.

Paper Machines

for WRITINGS, FINE PRINTINGS,
M.G and NEWS (WIDE HIGH SPEED).

BEATERS CUTTERS STRAINERS GRANITE PRESS ROLLS PULPERS REELERS
CALENDERS LAVA BEATER ROLLS AND BED PLATES BOARD MAKING MACHINERY

SOLE AGENTS (England, Ireland and Wales):

WHITTAKER & CO.,

ENGINEERS FOR PAPER MAKERS,

CASTLE CHAMBERS, MARKET PLACE,

BURY, LANCS. Telegrams: "MECHANICAL, BURY."

Phone: 698 BURY.

Edward Rushton, Son & Kenyon,

Auctioneers, Valuers and Fire Loss Assessors,

13, NORFOLK STREET, MANCHESTER.

(Established 1835.)

Telephone Nos. : 775 City and 5833 City

Telegrams : "Rushtons, Auctioneers, Manchester."

Undertake VALUATIONS FOR INSURANCE, and other purposes.

FIRE LOSS SETTLEMENTS

(On behalf of Assured only).

SALES BY AUCTION

of Mills, Works, Plant and Machinery and all work in connection therewith.

Average Yearly Valuations exceed £10,000,000.

Full Staff of Trained Expert Assistants employed.

R. R. WHITEHEAD & BROS., LTD.

Established 100 Years.

Manufacturers of every description of

FELTS

Telephone :

No. 63, Mossley.

Telegraphic Address :

"Whiteheads,
Greenfield, Oldham."

for Paper Makers.

Royal George Mills, GREENFIELD, near OLDHAM.

AXEL H. ÅGREN, GOTHENBURG, SWEDEN,

General Merchant and Forwarding Agent.

IMPORT OF IRON, STEEL AND METALS, CHEMICALS.

Telegrams : "ÅGREN, GOTHENBURG."

ESTABLISHED 1887.

DANDY

PAPER
MACHINE
WIRES

PLAIN &
TWISTED
PRESSE PATÉ
WIRES

BACKING
STEELING &
WASHER
WIRES

DANDY
ROLLS Etc.

PAPER MACHINE WIRES.

F & G. W. STONIER & CO. LTD.

(Lancashire Wire Works)

Wire Manufacturers and Weavers

**HARRIS STREET STRANGWAYS
MANCHESTER**

ROLLS.

TELEPHONE
INTERWEAVE

TELEPHONE
CENTRAL
5079

CODES ABC.
5th EDITION.

Fullerton

MANUFACTURERS OF
EVAPORATORS
(FOSTER'S PATENT)
FOR
CAUSTIC SODA RECOVERY



Triple Effect and Finisher fitted with Multiple Feed Heaters

These Evaporators being cast in our own Foundry we are in a position to give good delivery.

Illustrated Catalogue on application

Fullerton, Hodgart & Barclay, Ltd.

PAISLEY

Telegrams: "Vulcan, Paisley."
Codes: A.B.C. 5th Edition;
Engineering; Western Union;
Marconi Inter.

ESTABLISHED 1838.

Telephones: 2163-4 Paisley.
Private Branch Exchange.

WRITE OR 'PHONE CENTRAL 426 & 427.

CABLES AND TELEGRAMS: "FETHPAPMIL, FLEET, LONDON."

HENRY FEATHERSTONE**13, WHITEFRIARS STREET, FLEET STREET, LONDON, E.C.4****Paper Agent and Merchant.***Specialities:* NEWS & SUPER-CALENDERED PAPERS in REELS or REAMS**EDWARD KEMPSTER & SONS, Ltd.,**
GEORGE STREET, BURY, LANCS.**Engineers and
Brassfounders.****Specialities:****PHOSPHOR BRONZE and
GUN METAL CASTINGS.****PUMPS, VALVES, AND PAPER MACHINE ACCESSORIES.**

Telegrams: "Kempster, Bury."

Telephone: 86 Bury.

"BON ACCORD"
CENTRIFUGAL PUMPS**Any Capacity and Head, and for all purposes.**

Driven by STEAM ENGINES (open and enclosed), ELECTRIC MOTORS, OIL ENGINES, BELTS, &c.

HIGH-SPEED ENGINES (open and enclosed types)
FOR DRIVING DYNAMOS, FANS, &c.

The "BON ACCORD" PUMP is specially adapted for Pumping Paper Pulp, Thick Viscous Liquids, &c.

DRYSDALE & Co., Ltd., YOKER, GLASGOW.

Telegrams: "Bonaccord, Glasgow."

Write for Catalogue.

MONTHLY EDITION IN ENGLISH.
WEEKLY EDITION IN SWEDISH.SUBSCRIPTION: 21 PER ANNUM,
POST FREE.**The "Mercator,"****A Journal devoted to Finland's Industry and Trade, is
the Best Advertising Medium in Finland, with its
large Home and Foreign Circulation.****"MERCATOR" OFFICE, NYLANDSGATAN 3-5, HELSINGFORS.**

CHINA CLAY (KAOLIN)

**For Paper-Making, Coating
and Chemical Manufacture.**

THE WEST CARCLAZE CHINA CLAY CO., LTD.,

Telegrams—
"PORCELAIN,
ST. AUSTELL."

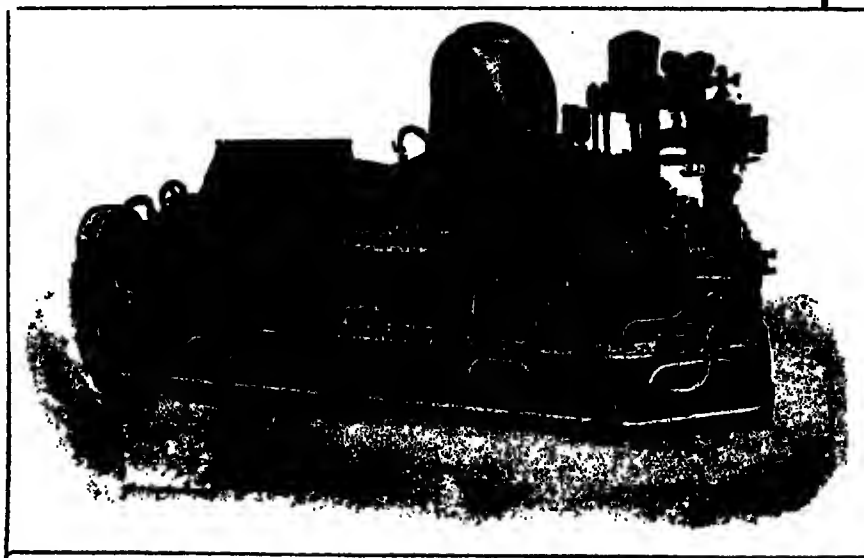
**China Clay Mine Proprietors,
ST. AUSTELL, ENGLAND.**

STEAM TURBINES

for ALL PURPOSES AND STEAM CONDITIONS

WE make a special
feature of Tur-
bines for Back Pressure
Work, with whole or
partial delivery of
steam against pressures
up to 60lbs. per sq. in.
Prices and particulars
on application.

Early Delivery.



PETER BROTHERHOOD, LIMITED
PETERBOROUGH

BENTLEY

Telegraphic Address: - - "Calender, Bury."
Telephone No. - - - 340 Bury.
Codes used: A I. A B C (5th), and Western Union.

BU

The Barnes Patent Spray Damper



The most
Perfect and
Simple
Damper at
present
made.



JACKSON

Ltd.

Y Near **MANCHESTER.**

**Modern
High-Speed
News
Paper-making
Machines.**

John Wild & Sons, Ltd.,

SPECIALITIES:

SUPER CALENDERED PAPERS
DRAWING PAPERS - - -
FERRO-PRUSSIAN CARTRIDGE
Glazed and Unglazed IMITATION
PARCHMENT - - - - -
ENVELOPE PAPERS - - - -
BEST STAINERS - - - - -
MANILLA CARTRIDGES - - -
Glazed White WAXING PAPERS
BUTTER PAPERS - - - - -
TEA PAPERS, MIDDLES - - -
TAG OR LABEL PAPERS - -
CHROMO AND ENAMELLING
PAPERS
VARNISHING PAPERS - - -
PRINTINGS—White and Toned -
M.G. BISCUIT CAPS - - - -
BOOK COVERS - - - - -
BEST GLAZED CASINGS - -

PAPER MAKERS,

*Broad Durers
Paper Works,*

RADCLIFFE,

Near MANCHESTER.

Telegrams: "WILD, RADCLIFFE."

Telephone: 40, WHITEFIELD.

London Agent: Mr. HENRY BURGESS,
15, Dowgate Hill, E.C.

MILL No. 888.

WIFSTAVARFS AKTIEBOLAG,

Telegrams:
"WIFSTA
WIFSTAVARF."

WIFSTAVARF (Sundevaal District) Sweden.

FOUNDED 1799

SALES OFFICES: Kungsträdgårdsgatan, 10, STOCKHOLM.

Telegrams: "WIFSTA," Stockholm.

**Manufacturers & Exporters of
Chemical Wood Pulp.**

**STRONG SULPHITE
EASY BLEACHING Do.
EASY BLEACHING SODA
and STRONG SODA**

W W K & W W
W W L
W W L
W W K

Brands

Annual Production
about 55,000 tons

Brands

" 22,000 "

AGENTS:

UNITED KINGDOM: PALMER, FLYGT & Co., 110, Cannon Street,
London, E.C.; and

ROB. ERIKSON & Co., Ltd., 73a, Queen Victoria St., London E.C.

FRANCE, SPAIN & PORTUGAL: LORENTZEN & GUTERIT, 12, Rue
Boissy D'Anglas, Paris.

HOLLAND: OTTO J. FABER, Prins Hendrikkade, 20-21, Amsterdam.

BELGIUM: GROSS & IGENS, 20, Courte Rue des Claires, Anvers.

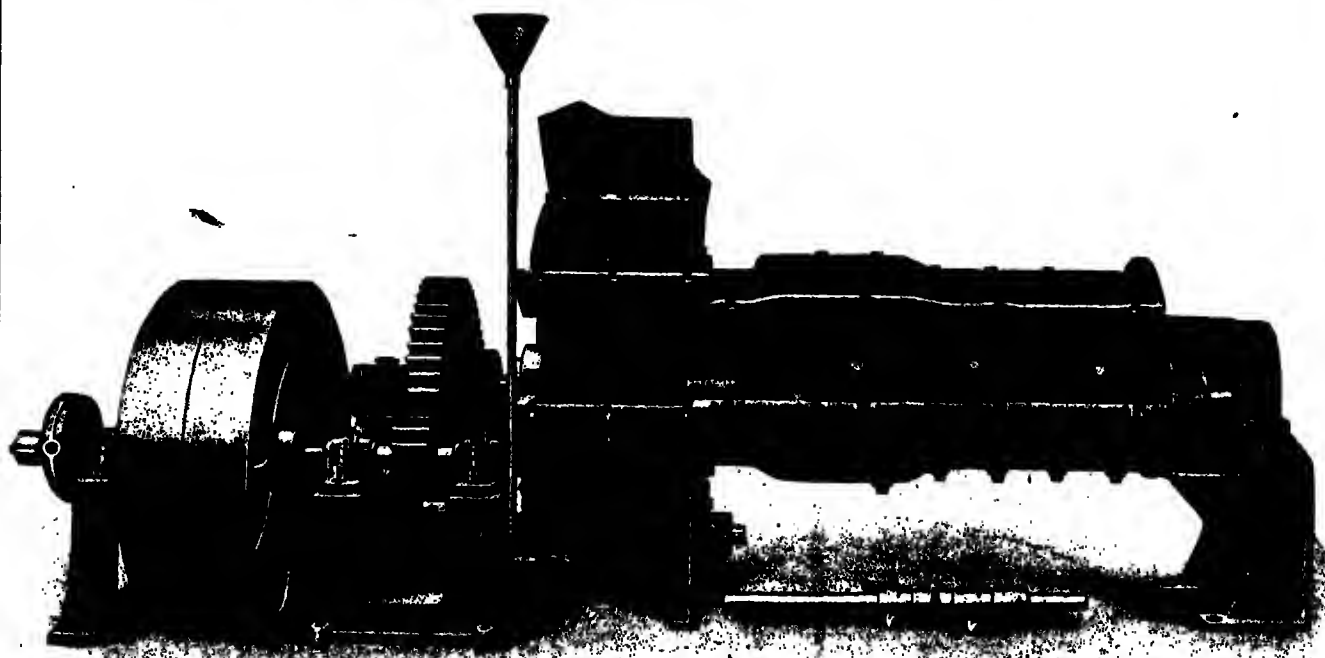
The Watford Engineering Works,

Limited.

Established 1827 by Mr. GEO. TIDCOMBE, Senr.,

**PAPER MILL ENGINEERS & MILLWRIGHTS,
LOWER HIGH STREET, WATFORD.**

Telegrams: "Mechanical Watford" Code—5th Edition A B C. Telephone: 35 Watford.

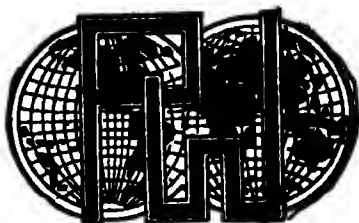


THE IMPROVED “Watford” Pulper.

STRAINERS, STRAINER PLATES, DRUMS AND
CYLINDER MOULDS OF EVERY DESCRIPTION.

SPRAY DAMPERS, SLITTERS, FROTH KILLERS,
STUFF CHEST MIXERS, PULP SHREDDERS, Etc.

"Leibers Standard, Western Union
and A.B.C. 5th Edition Codes."



PARSONS & WHITTEMORE

(INCORPORATED)

Are Buyers and Sellers of

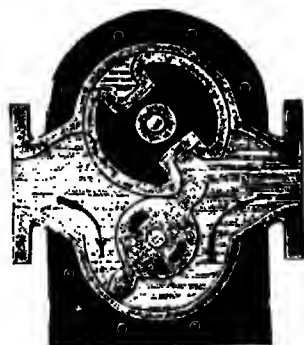
Sulphite Pulp & all Grades of Paper & Paper Mills Supplies.

Write them

Head Office : 299, BROADWAY, NEW YORK, U.S.A.

Also At 26, MARKET STREET, SYDNEY, NEW SOUTH WALES; MELBOURNE, VICTORIA, AUSTRALIA;
CASILLA 2797, SANTIAGO de CHILE, CHILE, S.A. CALLE ALFONSO 367, BUENOS AIRES, ARGENTINA.
32, ST. GEORGE STREET, CAPE TOWN, SOUTH AFRICA. P.O. BOX 1397, HAVANA CUBA. And Elsewhere.

Cable Address: "PARSWHIT."



THE 'Drum' Pump

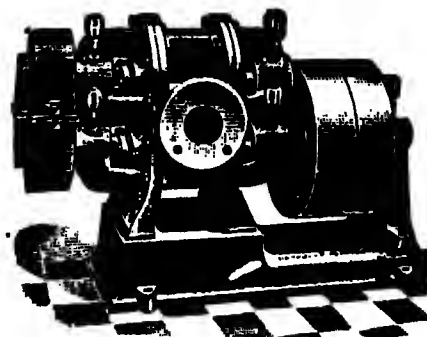
(JOHNSON'S PATENTS).

**Positive Action. High Efficiency.
No Valves.**

Fitted to the Suction Boxes of Paper Machines in
many of the leading Mills.

Telegrams—"Drum, Bradford."

Telephone No. 2358.



Write for Catalogue
No. 81 to—

DRUM ENGINEERING CO., 28, HUMBOLDT STREET, BRADFORD.

Fred^k. G. Williams, 119, Chapel Street, SALFORD,
MANCHESTER.

Telegrams: "SULFUR."
Telephone: 4481 CITY.

ANILINE COLOURS & CHEMICALS

Stocks Now in Manchester.

**Malachite Green
Metanil Yellow**

ETC.

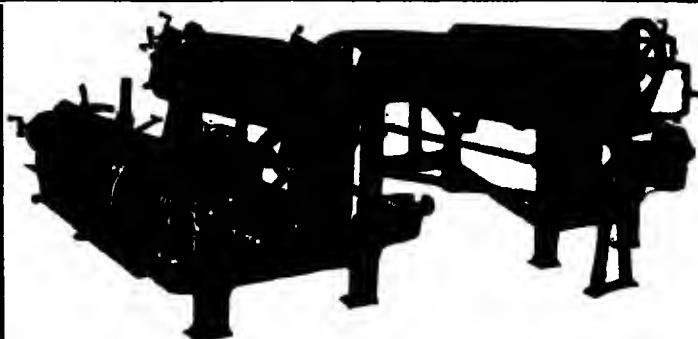
**Magenta Crystals
Brilliant Crocelne**

ETC.

**New Magenta
Methyl Violet**

ETC.

Griesheim-Elektron products for Scotland, Lancashire and the North, excluding Yorkshire.



TYPE 40 G. Semi and Full Wax Coating Machine.
Patented in United States. Also in Great Britain, Canada and
other Countries.

Paper Coating Machines

**Carbon Paper Coating Machines
Gumming and Gluing Machines**

This machine will coat one or both sides of the paper with the exact amount
of wax desired; with finest high gloss finish on GUM-sealing bread wrappers, also
on both heavy or light papers; it can absorb the wax entirely into the paper or
retain most on the outside; also high grade dry waxed paper, and best grades of
waterproof and oiled papers up to 72 inches wide, at a fast rate of speed.

Please submit your problems to our Engineering Department
for solution. This service rendered cheerfully and gratuitously
implying no obligation whatever.

MAYER COATING MACHINES CO., Rochester, N.Y., U.S.A.

Telephone Nos.—85 ECCLES.
 Telegrams—"BLUE," PATRICROFT.

ESTABLISHED 1840.

Hazlewood and Sons, Ltd.,

NELSON WORKS. PATRICROFT, near Manchester.

Enquiries Solicited for Home and Export for

ANILINE COLOURS

Prussian Blues (Paste and Powder)
 Indigo Blues
 Refined Indigo
 Indigo Substitute
 Indigo Extract
 Ultramarines
 Rosin

Smalts Blue
 Carbon Black
 Bark Extract
 Logwood Extract
 Hematine Paste and Crystals
 Turkey Red Oil
 Soaps

ROSIN SIZE and all Chemicals for the
 Paper and Allied Trades.



THE "ROBEY" PATENT UNIFLOW ENGINE.



The advantage of the ROBEY PATENT UNIFLOW ENGINE is that, in comparison with engines of the ordinary type, even of the highest class, the clearance spaces in the cylinder are not reduced in temperature, because the steam is compelled to flow in one direction only.

This means considerably increased efficiency, and the economy obtained in a Single Cylinder Engine of the Uniflow type is equal to that of a high-class Triple Expansion Engine.

There are other points in the design which are of interest, and we should like the opportunity of sending you a copy of our catalogue.

ROBEY & CO., Ltd., Globe Works. LINCOLN

J. A. NORDBERG, Ltd.
30/31, Queen Street, LONDON, E.C.

CHEMICAL & MECHANICAL WOOD

Supply all kinds of **PULPS**

Approach

G. E. Davies & Company,

5, CROSS STREET, MANCHESTER.

for **PAPER AND PAPERMAKING MATERIALS.**

Reg. "NATSTAN." Trade Mark.

SATISFACTION GUARANTEED.

AYERS LIMITED

**LACHUTE MILLS,
P. Q., — CANADA.**

For Home or Exportation.

Oldest and largest manufacturers
of Paper and Pulp Machine Felt
.. .. in Canada.

FELTS for
PULP and PAPER MAKERS

OUR SPECIALITY:

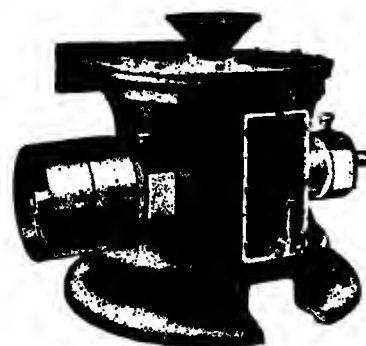
"KEK" Patent Grinding Mill

For Chemicals, Colours, Dyes, Fibres, Minerals, &c.

**Specialities: CHEMICAL PLANT, PANS, TANKS,
VACUUM DRYERS, &c.**

— THE —

**Chemical Engineering Co. (Manchester), Ltd.,
49, Deansgate, MANCHESTER.**



SPANISH UNION OF PAPER MILLS (LA PAPELERA ESPAÑOLA)

DAILY OUTPUT OF PAPER—125,000 KILOS.

PAPER MILLS: At Aranguren, Arrigorriaga (Viscaya); Renteria (two); Tolosa (two); Illarramendi, Olarrain (Guip zcoa); Villava, Oroz-Betelú (Navarra); Villanueva del Gállego (Saragossa); Valladolid, Palazuelos (Segovia); Fuensanta (Albacete), and Puente de Don Juan (Cuenca).

PULP MILLS AT

Aranguren, Renteria (two); Oroz, Villava, Olarrain, Illarramendi, Segovia and Villagordo del Jucar.

Manufacturers of every
description of

PAPER

FOR EVERY COUNTRY
THROUGHOUT THE WORLD.

All enquiries and correspondence to—

BURNELL HARDY & CO
106 Queen Victoria St., London, E.C.
SOLE AGENTS.

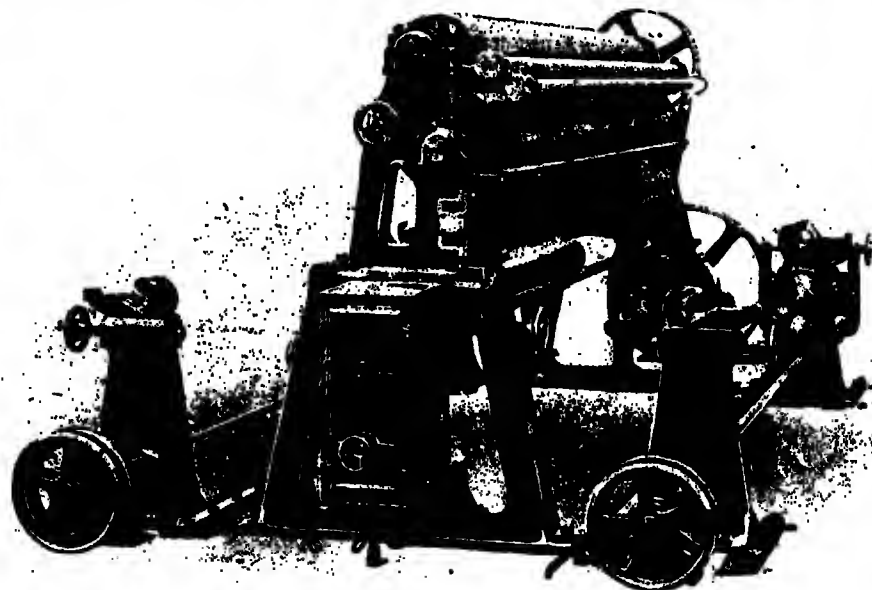
THE WEST END ENGINE WORKS Co.

Paper-Makers' Engineers

Telephone No. :
1473 CENTRAL.

Telegrams :
"West End,
Edinburgh."

EDINBURGH



BRUSH DAMPING MACHINE.

CROOKES, ROBERTS & CO.,

MAKERS OF GOEBEL CUTTERS

All Sizes.

Manufacturers of

TOPS AND BOTTOMS.
Prices on application.

ARGUS
WORKS SHEFFIELD.

Telegrams:
"ARGUS, SHEFFIELD."



RAG ENGINE
ROLL BARS

and

BED PLATES

in Crookes' Special Metal Composition.
Best Refined Crucible Cast and Selected
Steels.

TRAM AXLES AND FORGINGS
A SPECIALITY.

CIRCULAR KNIVES.

RAG AND ROPE CHOPPER KNIVES.

Doctor Blades. Guillotine and
all other Machine Knives,
and every description of
Tools used by Paper-Makers.

ARGUS Special High Grade Crucible
Steel for all Purposes.

ARGUS HIGH SPEED (all grades).

ELBOW PLATE



ROLL BAR

CIRCULAR
CUTTERS

CIRCULAR
CUTTERS.



STRAIGHT PLATE

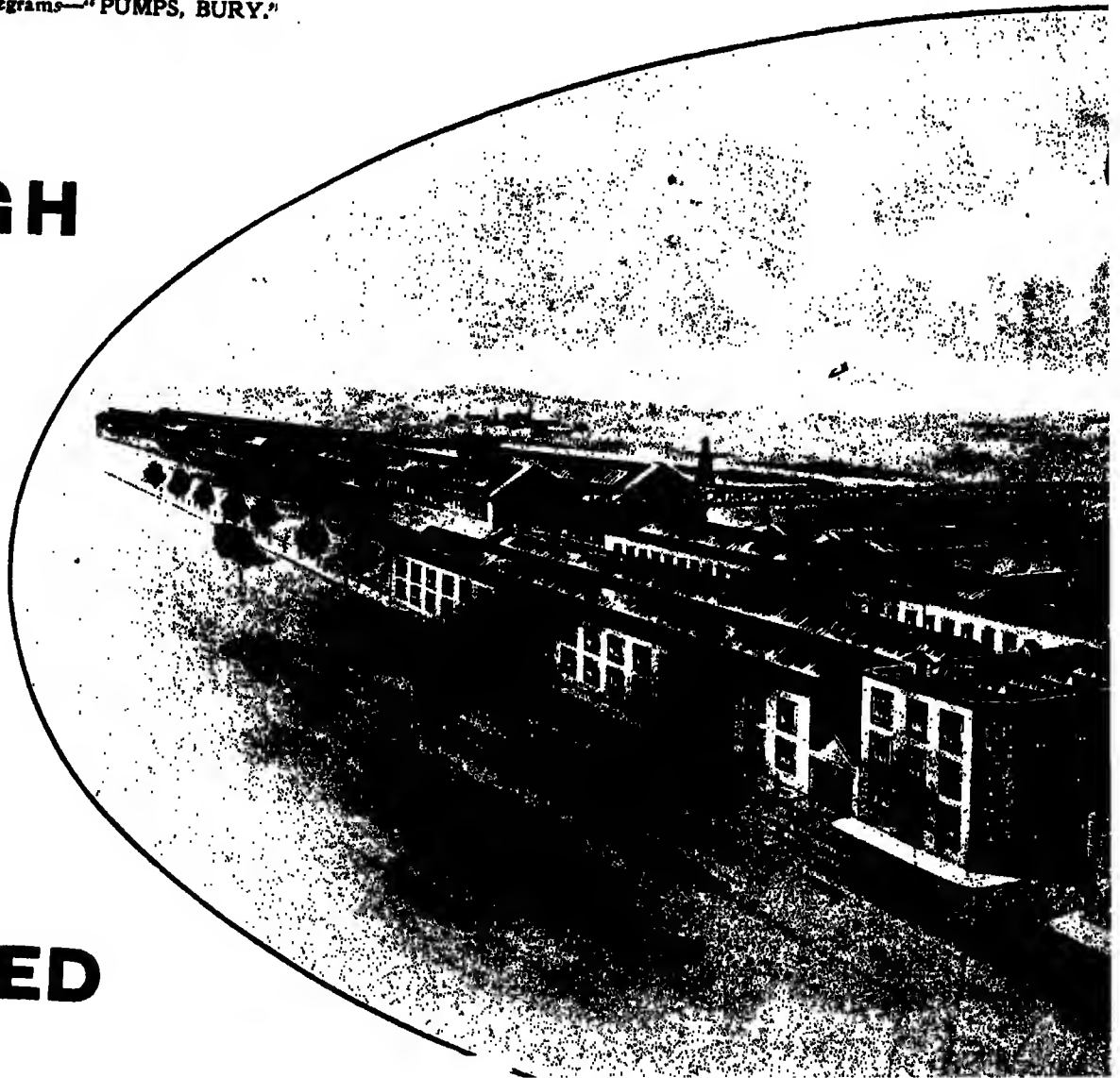


CHARLES WAL

Telephone—499 BURY.

Telegrams—"PUMPS, BURY."

HIGH



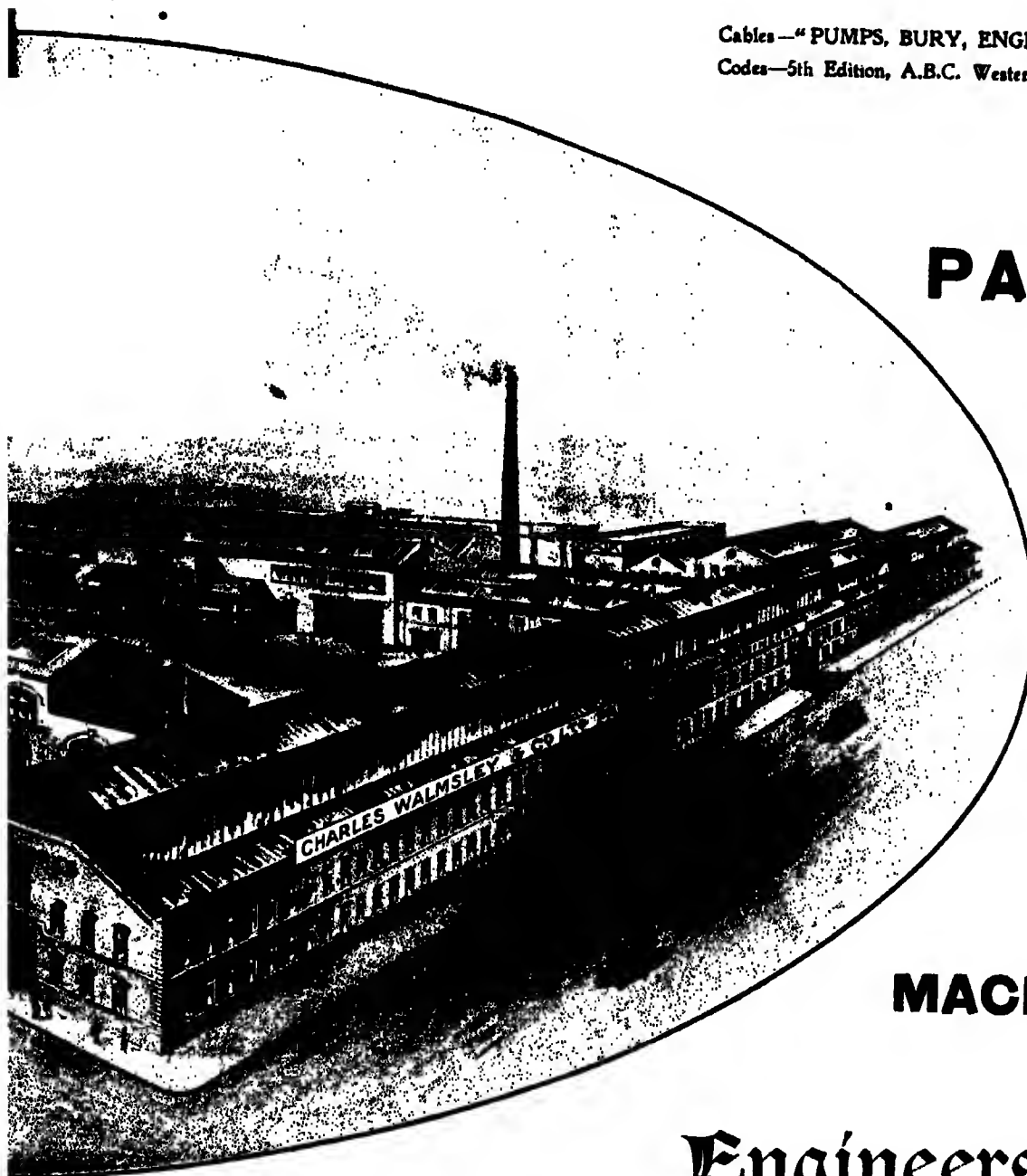
SPEED

Paper Makers' ATLAS WORKS

SLEY & Co. LTD.

Cables—"PUMPS, BURY, ENGLAND."
Codes—5th Edition, A.B.C. Western Union.

PAPER



MACHINES

Engineers,
LANCASHIRE.

WHITLEY PARTNERS,

Engineers and Brass Founders,
RAILWAY WORKS, LEEDS.

Calender Bowls and Paper Machine Rollers in Brass.

Paper-Makers should specify for

Whitley's
Spun Brass Shells,

Which are Unequalled in Density (being Non-Porous and
Absolutely Free from Blow Holes), are Economical in Use, and
add practically nothing extra to the cost of Paper Machines.



PATENT MARX BEATERS

Can work Thickest
Furnish

Small
Power Consumption.

High-speed Stuff
Circulation.

Improved Strength, Feel,
and
Look-through of Sheet.

R. J. MARX,

(LATE J. MARX & CO.),

PAPER-MAKERS'
ENGINEERS.

133/9, FINSBURY PAVEMENT, LONDON, E.C.2.

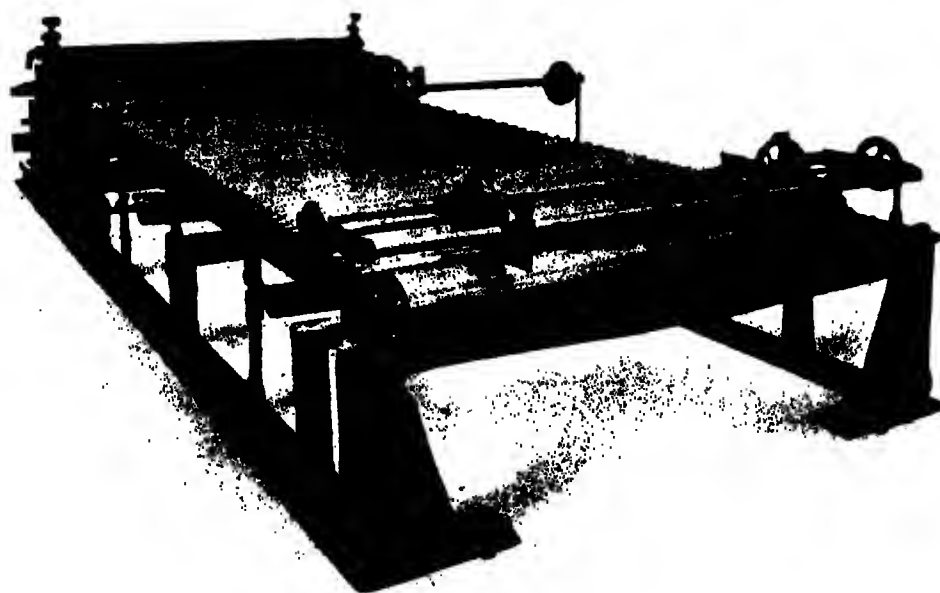


Engineering Works :
CORONATION WHARF,
TOWNMEAD ROAD,
FULHAM, LONDON, S.W.6.

Telephone : PUTNEY 2476
(2 LINES WITH PRIVATE EXCHANGE.)

Telegrams :
MASSOUN, WALGREEN,
LONDON.

PAPER MACHINES



· 1920 CONSTRUCTION

WE SPECIALISE IN PAPER & BOX BOARD MACHINES

WOOD PULP SUBSTITUTE

Bleached or Unbleached
COTTON WASTE
free from foreign matter

GUARANTEED 95% PURE CELLULOSE

Send your enquiries to
us, when our services
will be at your command.

HOLT BROTHERS

Wharf Mill
BURY BRIDGE

BURY, LANCASHIRE

Telephone 332 BURY.

Telegrams "HALES, BURY."

The Annual Number of
THE PAPER-MAKER

FOR 1919—20

is now on Sale.

PRICE 3/-

Publishers:

S. C. PHILLIPS & CO., 47, Cannon St., E.C.4.

ROPE DRIVING

For **EFFICIENCY** and **DURABILITY** USE
KENYON'S



Illustrated
Lecture on

"The Transmission of Power by Ropes"

Post Free, on application to—

WM. KENYON & SONS, Ltd.

CHAPEL FIELD WORKS,
DUKINFIELD, ENG.

Telephones Nos.: 494 Ashlon, 6818 London Wall.

Telegrams: "Kenyon, Dukinfield"; "Kenyoners, London."

LONDON OFFICE: 95 to 97, FINSBURY PAVEMENT.

BRANCH WORKS: ARMENTIÈRES, FRANCE. (1)

The Oldest Trade Protection Office in the United Kingdom.

ESTABLISHED 1776.

PERRY'S
TRADE PROTECTION OFFICES
(W. R. PERRY, LTD.),

26 & 27 BUSH LANE, CANNON STREET, LONDON.

WITH AGENTS AND CORRESPONDENTS THROUGHOUT THE WORLD.

Inquiries made as to the position and standing of Traders and others
in United Kingdom and Abroad.

PERRY'S GAZETTE AND LISTS OF CREDITORS

Are published weekly, and are invaluable to every one in business.

Names obtained of suitable Agents and Reliable Business Firms.

DEBTS RECOVERED AND PAID OVER PROMPTLY.

PENMAN & CO. LTD.

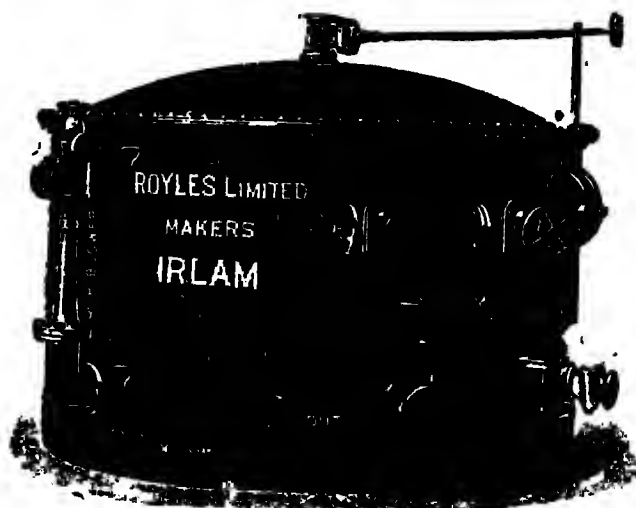
Makers of all Types of

STEAM BOILERS

*Including Esparto
Boilers & Revolving
Rag Boilers.*

Telegrams:-
"PENMAN,
GLASGOW."
Codes used:-
A.B.C. 5th Edition and
Engineering Telegraph.

**CALEDONIAN
BOILER WORKS, GLASGOW.**
London Office:- **SUFFOLK HOUSE,
LAURENCE POUNTNEY HILL.E.C.**



Over 4,500 in Operation.

ROYLES FILTERS

THE MOST PERFECT AND RELIABLE
FILTER FOR FILTERING DIRTY AND
MUDDY WATERS IN LARGE OR SMALL
QUANTITIES.

PRESSURE AND OPEN FILTERS.

Simple Working,
Easy Cleansing,
No Power Required.

Filtering Material never requires Renewing.

Makers of IRON ELIMINATING, OIL ELIMINATING, AND WATER SOFTENING PLANTS.

Write for Lists and References.

ROYLES LTD., IRLAM, nr. MANCHESTER

Water Experts.

Branches: LONDON, GLASGOW, NEWCASTLE, & CARDIFF.

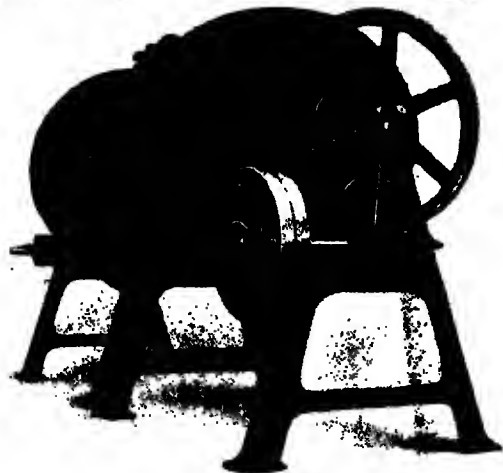
LORD'S BARNBROOK

(Late J. K. & R. LORD),

Barnbrook Boiler Works, BURY,
Near MANCHESTER.

Telephone No. 226

Established 1843.



REVOLVING GLOBICAL BOILER for Rags and Gun Cotton.

Specialities:

CYLINDRICAL and SPHERICAL REVOLVING BOILERS
and DIGESTERS for Paper and Wood Pulp.

HIGH PRESSURE STEAM BOILERS.

Telegrams: "Giles, Leith."

Telephone: Nos. 213 and 214.

E. CHALMERS & CO., LTD.

BONNINGTON, LEITH.



Linen Rags. Cotton Rags. Canvas.
Hemp Ropes. Manilla Ropes.
Jute and Flax Bagging.
Waste Papers. Strawboard Cuttings.
Paper Shavings (Cream, White, Coloured, &c.)
&c., &c. All thoroughly well classed.

ENQUIRIES INVITED.

SAMPLES ON APPLICATION.

N.B.—CASH OFFERS made for Disused Paper
or other Works for Dismantling purposes.

Scrap Metals (Iron, Brass, Lead, Zinc, &c.), Waste Rubber, &c., &c.,
purchased for prompt cash.

John W. Leitch & Co.

Milnsbridge Chemical Works,

Nr. HUDDERSFIELD,

MANUFACTURERS OF

**Coal Tar Dyes for
Paper-Makers.**

Telephone Nos.:

188 & 190 Milnsbridge.

Telegrams:

"Leitch, Milnsbridge."


Samuel O'Neill

and Sons, Ltd.


LINDEN MILL.
CASTLETON,
LANCASHIRE.

Makers of

**Strawboard Centres
for Paper Makers.**



TRADE MARK



INDUCED DRAFT FANS


Provide ample Draft Power to meet change in grade of fuel or variation in the demand for Steam. They will improve the thermal efficiency of your Boiler Plant and effect remarkable economies.

LOW GRADE FUEL
which is causing you and your Engineer so much anxiety will give excellent results in your Boilers, and

STEAM SHORTAGE
becomes a thing of the past when you have installed the Sirocco Induced Draft System.

Let us send you full particulars

DAVIDSON & CO
LIMITED
SIROCCO WORKS
BELFAST



Let us send you BOOKLET 1009

Branch Offices: LONDON MANCHESTER, BIRMINGHAM, GLASGOW

ESTABLISHED 1848.

THORNTON & CO., LTD.

**India Rubber Manufacturers,
4, HANOVER STREET, EDINBURGH.**

Makers of all kinds of Rubber Goods required in a Paper Mill

The "Amazon" Driving Belt. Deckle Straps.
Strainer Diaphragms. Machine Aprons. Valves.
Delivery and Suction Hose.
Hat Shaped Rubbers for Rotary Strainers.

BALATA BELTING.

Telegraphic Address: "THORNTON, EDINBURGH."

CODES: A B C, 4th and 5th Editions.
Lieber's E-letter. Marconi International.

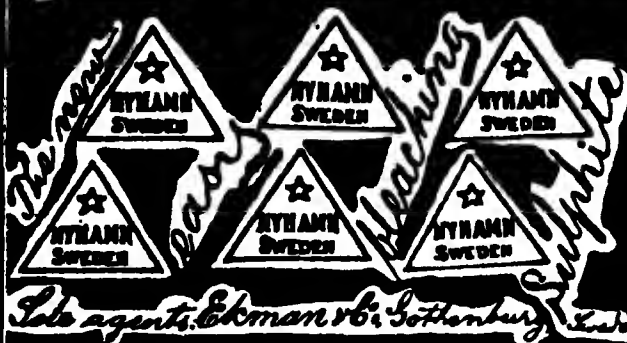
Telegrams: "KENYON, BURY."

James Kenyon & Son
LIMITED.

**PAPER-MAKERS'
FELTS.**

**Derby St. Mills,
BURY.**

Nyhamns Cellulose Aktiebolag, Lunds



KINNEAR

PATENT STEEL ROLLING

SHUTTERS

for
Car and Bus Depots,
Generating Stations
Boiler Houses,
Harbour Warehouses,
Core Ovens,
Garages, and
Entrances Generally.

On Admiralty, War Office, and other Lists.

ARTHUR L. GIBSON,
Radnor Works, TWICKENHAM.

GLASGOW: 1
121, West George Street.

MANCHESTER:
90, Deansgate.

Russo-British Chamber of Commerce PETROGRAD.

An Association of English and Russian
Business Men, mutually interested in
Anglo-Russian Trade.

The First Chamber of Commerce in Russia.

Working in conjunction with the
RUSSIAN SECTION OF THE LONDON
CHAMBER OF COMMERCE.

Membership about 1,200.

**AGENCIES and CORRESPONDENTS in all the large
Centres of Russia, Great Britain and her Colonies.**

Members receive: Free information on
questions of Commerce, Industry,
Agriculture and Finance relating to
the Russian and British Empires,
printed in English and Russian; Free
Copy of the Monthly Journal of the
Chamber; Free Insertion of Inquiries
in the Journal, and many other privi-
leges.

For further particulars apply to:—

**THE SECRETARY, RUSSO-BRITISH CHAMBER OF COMMERCE,
4, Gerasheva, PETROGRAD.**

ACETATES OF LEAD.

White and Brown.

PROCTER, JOHNSON & Coy. 17, Withy Grove, MANCHESTER.

DELIVERY FROM STOCK.

FRENCH CHALK.
Papermakers' Quality.

OXIDE OF IRON,
BLUES, BLACKS,
& ALL COLOURS.

We Had to Move.

Our old premises were crowded out, so we have built and equipped new and extensive premises, which—like the Packing—are the finest of their kind in the world. We pioneered the Metallic Packing business; we proved to engineers the economy secured by using our products, and we still remain where we have always been—right in the front.

When you think of PACKINGS the first name to occur to you will, without doubt, be

The United States Metallic Packing Co., Ltd.

SOHO WORKS, Allerton Road, BRADFORD.

Telegrams : " Metallic, Bradford."

Telephones : 4706, 4708.

W. S. BARRON & SON, LTD., Engineers, GLOUCESTER, ENGLAND.

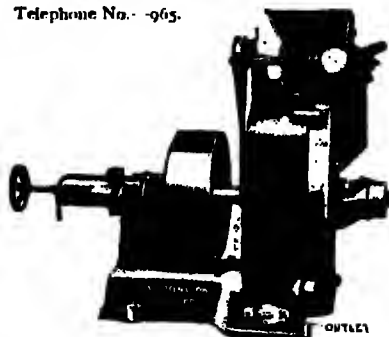
Telegraphic Address: " Barron, Gloucester."

Cable Code, A B C, 5th Edition; and Marconi International Code

Telephone No.: 965.

SPECIALITIES:

Crushing, Grinding, Dressing,
Sifting, Mixing, Drying, Damp-
ing, and Conveying Plants.



PATENT "DREADNOUGHT" GRINDER.

All productions are made at our own Works of the very best material and workmanship, under our personal supervision

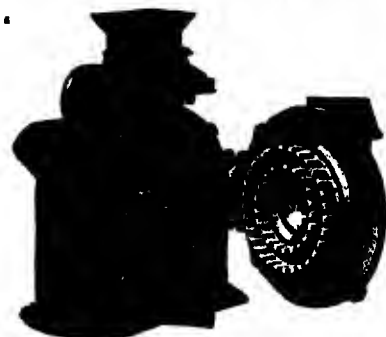
BARRON'S
PATENTS

"DREADNOUGHT" GRINDERS
IMPACT GRINDERS
DOUBLE PULVERIZERS
"DREADNOUGHT"
MILLSTONES.

Thousands in use all over the World.

Your enquiries are respectfully solicited.

Indents accepted direct against Cash in London or through Merchant Service.



PATENT IMPACT GRINDER.

Engines.

GALLOWAYS

Boilers.

LIMITED

MANCHESTER.

Telephone: 6312 Central.

Write for particulars.

Tandem Compound Drop-Valve Steam Engine,

with SPECIAL DEVICES
for supplying

MANUFACTURING STEAM at
STEADY PRESSURE from the
RECEIVER of the ENGINE.



GROSE & STOCKER, STOKE-ON-TRENT.Established
over 60 years.All qualities of **CHINA CLAY** for Paper Makers.

Special qualities for Centing.

Also PEARL WHITE, MINERAL WHITE, and TERRA ALBA of the finest qualities.

Stocks kept at FLEETWOOD, GARSTON, RUNCORN.

Sub-Office: 9, Heywood Avenue, Market Place, Manchester.

Telephone: 612.

Samples and Prices on Application.

Telegrams: STOCERN, STOKER-ON-TRENT.

Telegrams: "HIGGINSBOTTOM, SALEM NEW MILLS.

MANUFACTURERS OF

National Telephone: No. 12 NEW MILLS

ROSIN SIZE FOR PAPER-MAKERS.

Also Rosin Size (any strengths) Oleines and Soluble Oils, Red Liquors, White Softening, Bleaching Pastes, etc., etc.

G. & E. HIGGINSBOTTOM, LIMITED,**Salem Chemical Works, NEW MILLS, near STOCKPORT.****MANCHESTER CHINA CLAY CO., Ltd., 4 ST. ANN'S SQUARE, MANCHESTER.**Telegrams:
"Kaolin, Manchester."
Nat. Tel.: 3086.**JOHN WILLIAMSON, Manager, Royal Exchange, No. 23, Manchester.**

Representatives for Scotland: W. G. TAYLOR & CO., Ltd. 29, St. Andrew Square, Edinburgh.

Trade Mark
Registered.All Qualities of **China Clay** Used by Paper Makers

Mines: ST. AUSTELL, CORNWALL.

Stocks at Manchester, Runcorn, Preston, and Leith.

CHARLES BAKER & Co., Paper Makers' Agents,**77a, QUEEN VICTORIA STREET, LONDON, E.C.**

Telephones—City 4723—4724 (2 lines.)

Telegrams—"Glazed, Cent London."

SPECIALITIES:—

WHITE and SUPER CALENDERED PRINTINGS, WRITINGS, BANKS, CARTRIDGES, GREASEPROOFS, IMITATION PARCHMENTS, KRAFTS, BROWNS, M.G. POSTERS, VEGETABLE PARCHMENTS, CAPS, &c.

SOLE AGENTS FOR—HARTLEPOOL'S PULP & PAPER CO., LTD.
(Midland Counties & London)

Established 1810. Telegrams—"Dyestuff, Manchester." Post Box—455 Manchester. Telephones—1313 & 1314 City.

MILLWARDS MERCHANDISE LTD.**14a, Blackfriars Street, MANCHESTER.****CHEMICALS, COLOURS & REQUISITES
FOR PAPER MAKERS AND STAINERS.****A New 1920 Edition is now on Sale.
Phillips' Paper Trade
Directory of the World.**✓ THE MOST COMPLETE PUBLICATION EXTANT
✓ CONNECTED WITH THE PAPER TRADES. . .

Price 21/- Post free.

Publishing Office: 47, CANNON STREET, LONDON, E.C.4.

Brunner, Mond & Co.

LIMITED.

NORTHWICH, CHESHIRE, ENGLAND.



The Strongest and Purest form of the Article in the Market
and therefore the most economical for the use of Paper-Makers.

CAUSTIC SODA.

Exceptionally
Pure.

76/77% 70/72% 60/62%

High
Strength.

The CULTER MILLS PAPER CO., LTD.

Telegraphic Address:
"NINEMILL, LONDON."

Telegraphic Address:
"NINEMILL, PETERCULTER."

Manufacturers of

Art Papers and Boards
Dull and Bright Enamels
Cloth-Lined Papers & Boards
E.S. Writings and Printings
Sensitized Cheque Papers.

Superfine Tinteds
Tub-sized Writings
Imitation Hand-made with
Deckel Edge for Notepaper
and Fine Book Work

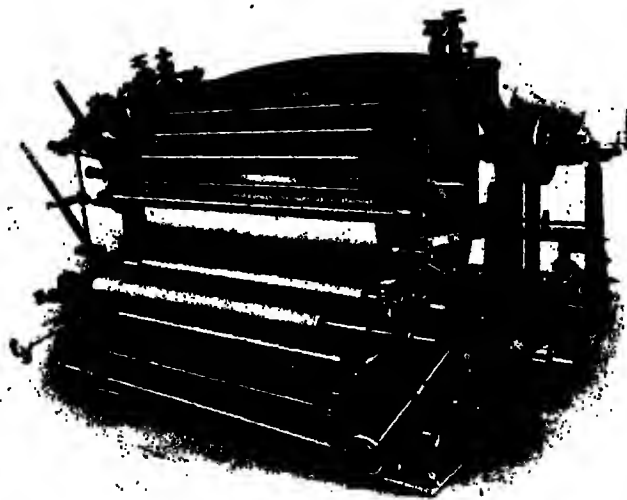
LONDON WAREHOUSE: 218, UPPER THAMES STREET, E.C.
WORKS—CULTER, PETERCULTER, ABERDEENSHIRE

MILL No. 9.

COATING MACHINERY

for
High Grade Work

IN
CHROMO,
ENAMEL,
ART and
BARYTA
PAPERS



SURFACE COATING MACHINE.

SIR JAMES FARMER & SONS LTD.
ADELPHI IRONWORKS
SALFORD MANCHESTER

THE UNITED ALKALI CO. LTD.

CUNARD BUILDING, LIVERPOOL, ENGLAND.

TELEGRAMS : UNIQUE LIVERPOOL

TELEPHONE 9280 BANK.

MANUFACTURERS OF

CAUSTIC SODA

50/77%

Sulphite of Soda, Hyposulphite of Soda.

SODA ASH,

All Strengths by AMMONIA
and LEBLANC Processes.

Soda Crystals. Chloride of Calcium.

Bleaching Powder

CONTAINING 35-37% AVAILABLE CHLORINE.

SULPHIDE OF SODIUM (Refined Concentrated and Crystals).

Pearl Hardening. Arsenic. Silicate of Soda.

SULPHUR Rock, Roll and Flowers.

SULPHATE OF COPPER. SALT.

ELECTRIC CONSTRUCTION COMPANY, LTD. ELECTRICAL PLANTS FOR MILLS

RELIABILITY. :: :: EFFICIENCY.

WORKS : : BUSHBURY, WOLVERHAMPTON.

F. REDDAWAY & Co., LIMITED

SOLE MAKERS OF "CAMEL HAIR" (Registered Trade Mark) BELTING.

RUBBER COVERED ROLLERS.

COTTON DRY FELTS.

CANVAS HOSE . . . RUBBER GOODS GENERALLY.

Telegrams:
"ANCHORAGE,
MANCHESTER."

PENDLETON, MANCHESTER.

LONDON: 50/1, LIME STREET, E.C.

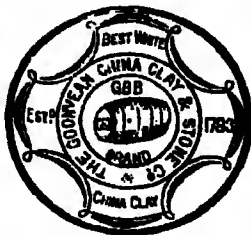
Telephones:
5520/1 CITY
5520 TRUNK.

T. J. MARSHALL & CO. LTD.

DANDY ROLL & MOULD MAKERS
WATERMARKING OF EVERY DESCRIPTION

Campbell Works, Stoke Newington; If you want a DANDYROLL QUICKLY
London. N.16. Phone. DALSTON 2500 telegraph "DANDYROLLS LONDON"

GBB



REGISTERED TRADE MARK

GBB

Managing Director:

Mr. R. J. VARCOE.

Address:—THE

Goonvean China Clay & Stone Co.,
ST. AUSTELL, CORNWALL.

Notice. This world-famed coating and bleaching China clay is only sold under the brand G.B.B. and no other. We are informed that persons are trying to substitute other clays, and in other cases informing customers that G.B.B. cannot be obtained, in order to get in their own low grade clay. The Goonvean Co. hope consumers will send them information at once, if such or any abuse of our registered trade mark is made.

We also produce the **M.G.** and **G.V.** No. 2 China clays. Address enquiries, etc., to the Sole Producers as above.

THE Paper - Maker

AND British Paper Trade Journal.

WITH WHICH IS INCORPORATED

THE WOOD PULP MAKER.

THE INDEPENDENT & PRACTICAL JOURNAL FOR THE PAPER & WOOD PULP TRADES.

Founded by S. CHAS. PHILLIPS M.S.C.I. in the Year 1891.

Telegrams "SONICA, LONDON."

and Cables "SONICA, MANCHESTER," A.B.C. (Code) 5th Ed.

Telephone No. 5420 (Bank)
No. 14 City (Manchester).

ALL RIGHTS RESERVED.

CHIEF OFFICE:

47, CANNON STREET, LONDON E.C.4

BRANCH OFFICES: 448 & 450, PRODUCE EXCHANGE BLDGS.
MANCHESTER.

Registered for the Canadian Magazine Post.

VOL. LX., No. 5.

NOVEMBER 1, 1920.

Monthly 1/6; BY POST 2/-.
Subscription 21/- per Annum, Post Free.

CHINA CLAY

WM. VARCOE & SONS

Established 1830.

LTD

Head Office:—ST. AUSTELL,
ENGLAND.

Also Offices at:—

STOKE-ON-TRENT, MANCHESTER
and BRUSSELS.

Shafting. Belt Pulleys. Rope Pulleys. Gear Wheels.

For hard continuous running specify Harpers'
Ring Oiling Pedestals lined with Babbitt or
Gun-metal.

HARPERS LTD., ABERDEEN.

ENGLISH CHINA CLAYS LTD.

ST. AUSTELL, CORNWALL.

LARGEST CHINA CLAY
PRODUCERS in the WORLD.

CHRISTIE'S PAPER MACHINE WIRES

ANY WIDTH
UP TO 210'.

OF SPECIAL RUBY METAL

London Office:
21/22 Bishopsgate,
E.C.

Noted for Long Life, Smooth Running,
Fine Finish, Flat Edges, Special Seams.

EXTRA STRONG CABLE OR TWISTED WIRES (TINNED AND UNTINNED).

WOVE, SPIRAL AND LAID DANDY ROLLS

(PLAIN AND WATERMARKED).

WASHER WIRE AND FINE CLOTHS

TO 200
MESH.

Telegraphic Address:
"LADYWELL"
GLASGOW.

GEO. CHRISTIE, LTD. LADYWELL WIRE WORKS, GOVAN, GLASGOW.

R. L. LUNDGREN, LIMITED.

113, Queen Victoria St., LONDON, E.C. 4.

And at 2, St. Andrew Square, EDINBURGH.

**Specialists in Paper
and Enamelled Boards**

**See
Our
SPECIAL
Advertisement on Page 691.**

Telephone: — 6058 and 6059 CITY.

Telegraphic Address: —
"LUNDGREN, CENT, LONDON."

**Sole Agents for the
"GEE" Centrifugal
Separators for the
Paper Trade.**

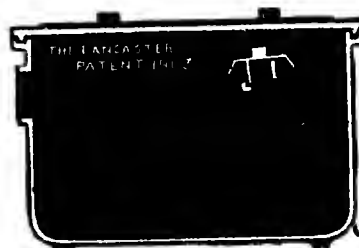
**STANCOURT, SONS
& MUIR, Ltd.,**

24, Walbrook, LONDON, E.C.

Telephone Nos. | Central 13193.
City 9521.

Telegrams:
"Ultramarine, Cannon,
London."

"THE LANCASTER" (R.T.M.) STEAM TRAPS.



The SIMPLEST and most RELIABLE Traps sold,
and undoubtedly the SAFEST on the Market.

THOUSANDS IN USE IN PAPER WORKS
ALL OVER THE WORLD.

FIRST ORDERS always "ON APPROVAL."

LANCASTER & TONGE, Ltd.,

Sole Makers of "The Lancaster" Pistons, Limit
Piston Rings, Steam Dryers, Metallic Packings, etc.

Pendleton, MANCHESTER.

Telegrams: "Pistons, Manchester." Telephone: 4681 City.

STOCKS HELD. PROMPT DELIVERIES.

**Vandyke Brown Powders,
Soluble Vandyke Crystals,
Finest Green Earth,
Burnt Turkey Umbers,
Oxides, Venetian Reds,
Ochres, Carbon Black**

(British and American).

**Prussian Blues (Paste & Powder),
Bronze Blues,
Ultramarine Blues,
Aniline Dyes for
Papermakers.**

Telephone: CITY 7774 & 7775.
Telegrams: "VANDYKE, MANCHESTER."
Code A.B.C. 5th Edition.

SAVILLE, MARVEL & Co., Ltd.,

Great Ancoats, MANCHESTER.

Works - MOSSLEY.

*Importers and Shippers of Aniline Dyes,
Colours and Chemicals, etc.;*

Mine Owners and Mineral Merchants.

THE Paper - Maker

AND British Paper Trade Journal.

WITH WHICH IS INCORPORATED
THE WOOD PULP MAKER.

THE INDEPENDENT & PRACTICAL JOURNAL FOR THE PAPER & WOOD PULP TRADES.

Founded by S. CHAS. PHILLIPS M.S.C.I. in the Year 1891.

Telegrams "SONICA, LONDON."

and Cables "SONICA, MANCHESTER," A.B.C. (Code) 5th Ed.

Telephone No. 5420 (Bank)
No. 14 City (Manchester).

ALL RIGHTS RESERVED.

Registered for the Canadian Magazine Post.

CHIEF OFFICE:

47, CANNON STREET, LONDON E.C.4

BRANCH OFFICES: 448 & 450, PRODUCE EXCHANGE BLDGS.
MANCHESTER.

VOL. LX., No. 5.

NOVEMBER 1, 1920.

Monthly 1/6; BY POST 2/-.
Subscription 21/- per Annum, Post Free.

CHINA CLAY

WM. VARCOE & SONS

Established 1830.

LTD

Head Office:—ST. AUSTELL,
ENGLAND.

Also Offices at:—

STOKE-ON-TRENT, MANCHESTER
and BRUSSELS.

Shafting. Belt Pulleys. Rope Pulleys. Gear Wheels.

For hard continuous running specify Harpers'
Ring Oiling Pedestals lined with Sabbit or
Gun-metal.

HARPERS LTD., ABERDEEN.

ENGLISH CHINA CLAYS LTD.

ST. AUSTELL, CORNWALL.

LARGEST CHINA CLAY
PRODUCERS in the WORLD.

CHRISTIE'S PAPER MACHINE WIRES

ANY WIDTH
UP TO 210".
OF SPECIAL RUBY METAL

London Office:
21/22 Bishopsgate,
E.C.

Noted for Long Life, Smooth Running,
Fine Finish, Flat Edges, Special Seams.

EXTRA STRONG CABLE OR TWISTED WIRES (TINNED AND UNTINNED).

WOVE, SPIRAL AND LAID DANDY ROLLS (PLAIN AND WATERMARKED).

WASHER WIRE AND FINE CLOTHS TO 200 MESH.

Telegraphic Address:
"LADYWELL"
GLASGOW.

GEO. CHRISTIE, LTD. LADYWELL WIRE WORKS, GOVAN, GLASGOW.

R. L. LUNDGREN, LIMITED.

113, Queen Victoria St., LONDON, E.C. 4.

And at 2, St. Andrew Square, EDINBURGH.

**Specialists in Paper
and Enamelled Boards**



**See
Our
SPECIAL**

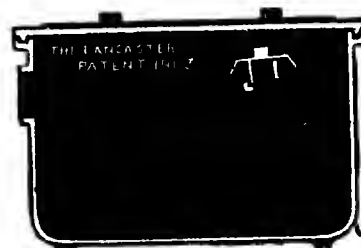
Advertisement on Page 691.

Telephone: — 6058 and 6059 CITY.

Telegraphic Address: —
"LUNDGREN, CENT, LONDON."

"THE LANCASTER" (R.T.M.)

STEAM TRAPS.



The SIMPLEST and most RELIABLE Traps sold,
and undoubtedly the SAFEST on the Market.

THOUSANDS IN USE IN PAPER WORKS
ALL OVER THE WORLD.

FIRST ORDERS always "ON APPROVAL."

LANCASTER & TONGE, Ltd.,

Sole Makers of "The Lancaster" Pistons, Limit
Piston Rings, Steam Dryers, Metallic Packings, etc.

Pendleton, MANCHESTER.

Telegrams: "Pistons, Manchester." Telephone: 4681 City.

**Sole Agents for the
"GEE" Centrifugal
Separators for the
Paper Trade.**

**STANCOURT, SONS
& MUIR, Ltd.,**

24, Walbrook, LONDON, E.C.

Telephone Nos. | Central 13193.
City 9521.

Telegrams:
"Ultramarine, Cannon,
London."

STOCKS HELD. PROMPT DELIVERIES.

**Vandyke Brown Powders,
Soluble Vandyke Crystals,
Finest Green Earth,
Burnt Turkey Umbers,
Oxides, Venetian Reds,
Ochres, Carbon Black**

(British and American).

Prussian Blues (Paste & Powder),

Bronze Blues,

Ultramarine Blues,

Aniline Dyes for

Papermakers.

Telephone: CITY 7774 & 7775.

Telegrams: "VANDYKE, MANCHESTER."

Code A.B.C. 5th Edition.

SAVILLE, MARVEL & Co., Ltd.,

Great Ancoats, MANCHESTER.

Works - MOSSLEY.

Importers and Shippers of Aniline Dyes,

Colours and Chemicals, etc.;

Mine Owners and Mineral Merchants.

THE Paper - Maker AND British Paper Trade Journal.

INCORPORATED

THE WOOD PULP MAKER.

THE INDEPENDENT AND PRACTICAL JOURNAL FOR THE PAPER AND WOOD PULP TRADES.

Vol. LX.—No. 5.

NOVEMBER 1, 1920.

ONE SHILLING AND SIXPENCE
By post, 2/-.

CONTENTS.

LITERARY.	PAGE.	ADVERTISEMENTS.	PAGE	ADVERTISEMENTS.	PAGE	ADVERTISEMENTS.	PAGE
The Employers' Federation of Paper-makers ..	586	Bentley & Jackson, Ltd. ..	710, 717	Great Western Railway ..	670	Parkyn & Peters ..	670
Presentation to Mr. C. R. Seddon, President ..	587	Bergougnan Tyne Co. ..	671	Green & Son, Ltd., E. ..	655	Parsons & Whittemore, Inc. ..	720
A Sketch of Mr. Seddon's Career ..	589	Berner and Nielsen ..	695	Greenhalgh & Co. ..	688	Parsons Trading Company ..	649
LEADER: Protection ..	593	Bertram, James & Son, Ltd. ..	640	Grose & Stocker ..	734	Pennan & Co., Ltd. ..	729
My Note Book ..	595	Boletín de la Industria y Comercio del Papel ..	719	Gumadins, Ltd. ..	704	Perry, W. R., Ltd. ..	728
Trip to Canada: Wayagamack Paper and Pulp Co. ..	603	Boving & Co., Ltd. ..	651	Haudelsfirman Solo ..	692	Phillips & Co.'s Standard Publication ..	702
Presentation to Mr. R. Gilroy Stationers' Company ..	600	Howater, W. V., & Sons, Ltd. ..	633	Hardman, Thos., & Sons, Ltd. ..	624	Phillips' Paper Trade Directory of the World ..	707, 734
Presentation to Mr. W. L. Tod ..	607	Bridge Paper Mills, Ltd. ..	703	Hardy, Geo. F. ..	710	Pochin, H. D., & Co., Ltd. ..	697
Technical Section of Paper-makers' Association: Papers and Discussions ..	600	Brice & Co., Ltd., Chas. ..	694	Harpers, Ltd. ..	721	Polli & Wigzell, Ltd. ..	673
Retirement of Mr. John Dobson ..	612	B. sh Dye Stuffs Corporation ..	622	Hazlewood & Sons, Ltd. ..	721	Porritt & Spencer, Limited ..	699
Stationers' Social Society ..	613	Brotherhood, Peter Ltd. ..	715	H. shige Transport N/H ..	682	Prior & Prier, Ltd. ..	706
Stuff-Chest ..	615	Brunner, Moud & Co., Ltd. ..	735	Higginbottom, G. & H., Ltd. ..	734	Proctor, Jas., Ltd. ..	694
Obituary: The Late Sir T. Vezey Strong ..	621	Cameron & Co. ..	658	Honeywell Bros. ..	676	Proctor, Johnson & Co. ..	735
The Late Mr. William Dedrick ..	621	Caldwell, J. L., & Co., Ltd. ..	663	Holbe Sherriff Paper Co. ..	694	Ralston, W. & Co., Ltd. ..	706
The Late Lieut. W. J. Anderson ..	623	Carlaw & Sons, David ..	678	Holt, K. shmachmehnfabrik ..	733	Raidaway, F., & Co., Ltd. ..	iv Cover
The Late Mrs. George Clapperton ..	623	Carmichael, Peter, & Co ..	682	Holt Brothers ..	728	Reid & Co. ..	710
A St. Bride's Installation ..	625	Chadwick, Lunt & Co. ..	694	Huyek, F. C., & Sons ..	620	Rez, Weidall & Co. ..	688
The Swedish Paper Trade ..	625	Chalmers, E., & Co. Ltd. ..	730	Hvatt, Ltd. ..	666	Riley's Chemicals & Colours, Ltd. ..	708
Commercial Motor Exhibition ..	627	Chemical Engineering Co. ..	722	Indentors' Guide, The ..	710	Rivdon Paper & Pulp Co. (Ltd. ..	664, 665
Scottish Notes ..	627	China Clay Trade Review ..	704	Jackson & Brother, Ltd. ..	690	Robey & Co., Ltd. ..	721
Wonderful New Glue ..	628	Christie, Geo. Ltd. ..	707	Jobb Brothers, Ltd. ..	712	Royce, Ltd. ..	696
Hartlepool Paper and Pulp Mill Co., Ltd. ..	629	Church, Geo., & Co., Ltd. ..	692	Johnson, C. H., & Sons ..	628	Rozelena Co., The ..	670
Halfpenny Telegraph: Jubilee ..	631	Clark, Chapman & Co. Ltd. ..	699	Kabbur & Co., K. H. ..	722	Rushton, Edward, Son & Kenyon ..	686
Mr. J. Sherrard's Birthday ..	631	Clayton Aniline Co., Ltd. ..	704	Kenyon, W., & Sons, Ltd. ..	724	Russo-British Chamber of Commerce ..	732
Edinburgh Jottings ..	632	Clegg & Son, Lewis ..	655	Kenyon, James, & Son, Ltd. ..	732	Sabel, Paul, & Co. ..	674
Northern Notes ..	633	Cole, Mardient & Morley, Ltd. ..	690	Kempster, Edward, & Sons, Ltd. ..	714	Salvesen & Co., Ltd. ..	681
Comish China Clay Industry ..	635	Cookson Bros. ..	632	Kjellberg & Hedberg ..	655	Sampson & White, Ltd. ..	690
Marriage of Mr. L. Spicer ..	637	Crookes, Roberts & Co. ..	723	Launcester & Tonge, Ltd. ..	ii C	Sandor Chemical Co., Ltd. ..	702
Australian Customs Tariff ..	637	Crowther & Osborn, Ltd. ..	690	Lang Bridge, Ltd. ..	661	Saville, Marvel & Co., Ltd. ..	ii Cover
The Markets ..	639	Culter Mills Paper Co., Ltd. ..	736	Laing, J. & Co., Ltd. ..	661	Small & Co., L. S. ..	670
Finance ..	641	Davidson & Co., Ltd. ..	731	La Papele a Espanola Co., Ltd. ..	722	Spanish Union of Paper Mills ..	672
THE WOOD PULP MAKER—Supplement.		Davies, G. E., & Co. ..	722	Laughton & Co. ..	674	Spicer & Son, Ltd., James ..	711
Paper-making in Poland ..	643	Dawson, John, & Son ..	716	Leitch, John W., & Co. ..	730	Stewart, Sam, & Muir ..	ii Cover
Revision of Finnish Export Free List ..	644	Diamond State Fibre Co. ..	676	Lendrum, Ltd. ..	614	Stockton-on-Tees Chemical Works, Ltd. ..	672
Australian News ..	644	Dixon & Co., Ltd., L. S. ..	672	Leyland & Birmingham Rubber Co., Ltd. ..	667	Stoner & Co., Ltd., F. & G. N. ..	701
Japanese Paper and Pulp Output ..	644	Douglas Engineering Wks., Ltd. ..	684	L'Industria Della Carta ..	710	Straker Soule, Ltd. ..	696
Woolpulp Markets ..	646	Drake & Gorbam ..	720	Lindmeyer & Johnson Paper Co., Ltd. ..	678	Sutcliffe Bros. ..	660
Review ..	646	Drysdale & Co., Ltd. ..	714	London Dye Manufacturing Co., Ltd. ..	704	Thiry & Co. ..	712
Board of Trade Returns—Imports ..	647	Huxlany & Sons, Ltd., Vates ..	590	Lonsdale Bros., Ltd. ..	655	Thoreson, Thor. ..	672
Board of Trade Returns—Exports ..	650	Eburite Paper Co., Ltd. ..	629	Lord's Harlebrook ..	736	Thurston & Co., Ltd. ..	731
Twenty-four Years Ago ..	652	Edwards & Sons, Ltd., W. D. ..	674	Lundgren, R. L., Ltd. ..	ii Cover, 691	Tilling, Ltd., Thomas ..	669
Foreign Letters ..	654	Eggers, Kaut ..	670	Manchester China Clay Co., Ltd. ..	734	Torp Brugs A/S ..	686
American and Canadian News ..	656	Electro Bleach & By-Products, Ltd. ..	655	Marshall, T. J., & Co., Ltd. ..	iv Cover	Trueman & Son, A. W. K. ..	660
Future of the Paper Industry ..	657	Electromotors, Ltd. ..	699	Marx, R. J. ..	726	The Turbine Patent Furnace Co., Ltd. ..	660
ADVERTISEMENTS.	AGX.	English China Clays, Ltd. ..	694	Masson, Scott & Co. Ltd. ..	727	United Alkali Co., Ltd. ..	ii Cover
Agren Axel, H. ..	672	Escher Wyss & Co., S.A. ..	694	Mather & Platt, Ltd. ..	695	United States Metallic Packing Co., Ltd. ..	733
Aktieselskabet Phoenix Papirfabrik ..	649	Evans, Norman ..	678	Matthews & Co., Ltd., Wm. ..	690	United Wire Works, Ltd. ..	697
Andrews & Co., Ltd. ..	702	Farmer, Sir James, & Sons, Ltd. ..	739	Mayer Coating Machines Co. ..	720	Varcoe, William, & Sons, Ltd. ..	ii Cover
Angel & Co., H. Reeve ..	628	Featherstone, Henry ..	714	Mercator, The ..	714	Vaughan Crane Co., Ltd. ..	696
Anglo Narva Paper Agencies, Ltd. ..	706	Felber, Jucker & Co., Ltd. ..	677	Mills, James, & Co., Ltd. ..	618	Vickers, Ltd. ..	692, 693
Ashbrook's Limited ..	686	Ferguson, Hardy S. ..	716	Mitobels, Ashworth, Stansfield and Co., Ltd. ..	617	Walsley, Charles, & Co., Ltd. ..	734, 725
Ashton, Frost & Co., Ltd. ..	705	Fernstrom, Erik ..	679	Mingrave & Co., Ltd. ..	686	Varill & Gilbert ..	692
Auld & Sons, Ltd., David ..	680	Finnish Paper Mill Association ..	675	Mingrave, John, and Sons, Ltd. ..	700, 701	Watford Engineering Works, Ltd. ..	719
Ayers, Ltd. ..	732	Finsk Papper och Travarutid Skrift ..	757	National Paper & Pulp Co., Ltd. ..	598	Watson, John M., & Co. ..	662
Backfold & Co., J. ..	660	Forester F. Co. Ltd., The ..	673	Nieuwhol, Surl & Co., Ltd. ..	710	Wavagamack Pulp and Paper Co., Ltd. ..	684, 685
Backhouse & Coppock, Ltd. ..	592	Fox, Stockell & Co. ..	709	Nordberg Ltd., J. A. ..	648	West Carlisle China Clay Co., Ltd. ..	715
B. A. T. & T. J. ..	683	Fraser & Chalmers Eng. Works ..	668	Nybanms Cellulosa Aktiebolag ..	732	West End Engine Works Co. ..	723
Baker, Charles, & Co. ..	734	French Paper Stock Co. ..	686	Olson, T. V. ..	681	Westinghouse Brake Co. Ltd. ..	708
Barker & Co., Ltd. ..	642	Fullerton, Hodgart & Barclay, Ltd. ..	713	O'Neill, W. Works, Joseph ..	681	Westwell, Ltd. ..	706
Belgian State Railways ..	708	Galloways, Ltd. ..	733	O'Neill, Samuel, & Sons, Ltd. ..	730	Whitehead, R. R., & Bros., Ltd. ..	688
Bennis, Ed., & Co., Ltd. ..	686	Gibson, Arthur L. ..	732	Oury, Millar & Co. ..	630	Whitely Partners ..	729
		Good & Sons, Ltd., John ..	669			Wistawaria Aktiebolag ..	718
		Goonvean China Clay & Stone Co. ..	iv Cover			Wild (John & Sons), Ltd. ..	718
						Whitaker & Co. ..	712
		Gordon, Watts & Co. ..	661			Williams, Frederick G. ..	720
		Gorton, Edward, Ltd. ..	694			Woodlands, Color & Chemical Co. ..	674
		Gots, Sulat A/B ..	698				

THE EMPLOYERS' FEDERATION OF PAPER-MAKERS.

ANNUAL GENERAL MEETING.

COMPLIMENTARY DINNER AND PRESENTATION OF PORTRAIT TO MR. C. R. SEDDON, J.P.

THE annual general meeting of the Employers' Federation of Papermakers was held at the Midland Hotel, Manchester, on Thursday, November 4, when there was a representative gathering of the Northern, Southern and Scottish sections.

The business part was transacted in the morning, Mr. C. R. Seddon (President of the Federation) occupying the chair.

The Annual Report of the Executive Council for 1919-1920 was as follows:—

The business of the Federation has proceeded with much activity, and the work and transactions of the respective Boards have been carried on effectively. Very frequent meetings and conferences with the Unions have been held in all the districts to deal with questions which are constantly arising in connection with employment, and the Executive Council have met on many occasions to consider questions in connection with the National Agreement with the Unions and other important matters. Since the last annual general meeting, three applications have been made to the Industrial Court to decide points arising out of the Old Agreement, and to arbitrate upon questions arising on the terms of the new one.

In the Southern Area, the constitution of the District Board has been slightly altered. Mr. E. Percy Reed, who was Chairman, having resigned in favour of Mr. A. Ralph Reed, and Mr. Arthur Baker has been appointed Chairman. Mr. H. Cremer has resigned and the Southern Board have expressed to Mr. Reed and Mr. Cremer their appreciation of their valuable services on the Board.

The Northern Board regret to record the loss of Mr. T. Y. Nuttall, who was one of the founders of the Federation, and who greatly assisted in the deliberations of the Board and whose valuable services were willingly placed at the disposal of the Federation. Captain W. E. Nuttall, his son, was appointed to fill the vacancy. Mr. J. M. Arnot, who represented Messrs. James Wrigley & Son, Ltd., and Mr. John Dobson, of Messrs. Charles Marsden & Sons, Ltd., have resigned their positions on the Board, and there are consequently two vacancies to be filled. The Northern Board wish to place on record their obligation to these gentlemen and their regret at losing them as colleagues.

From the Scottish Board, Mr. A. M. Rutherford resigned, and Commander W. B. Pirie, D.S.O., R.N., was appointed in his place. Mr. Rutherford has given much time and service to the Scottish Board, and has filled the position of Chairman with distinction. Mr. R. C. Cowan has been appointed Chairman of the Scottish Board.

Mr. C. R. Seddon, who has been the Chairman of the Northern Board since the inception of the Federation, has intimated his intention of relinquishing this office, and the Executive Council wish to record their high appreciation of his devotion to the work of the Northern Section.

The Federation in general meeting decided upon the application of the Paper Coating Mills to admit them to membership.

At the time of the last annual meeting, the National Agreement with the Unions of July 20, 1910, was in operation.

Owing to the continued rise in the price of commodities, the Executive Council met in February last and resolved to recommend the payment of a voluntary increase to workers ranging from 2s. per week to boys and girls, to 6s. per week to men. But this did not, in the opinion of the Unions, meet the increased cost, and they put in a formal application in March last for increases ranging from 4s. a week for girls, to 15s. a week for men. After negotiation with the Unions, it was eventually

decided to grant further advances of 1s. a week to boys and girls up to 4s. a week to men, and these payments continued up to the expiration of the first National Agreement. In the month of May last, having in view the expiration of the Agreement in July, the Unions made overtures for a New Agreement, and presented a memorial in which they claimed an advance of 6d. p.r. hour to all grades of adult males, with corresponding advances to other classes of workers, additional percentages to piece-workers, increased payment for overtime, holidays with pay, and many other concessions. This application was the subject of lengthy negotiation and much debate between the Council and the Unions, and counter proposals were submitted to them, but the negotiations, although productive of much good, came to an end without an agreement, and the whole question was remitted for settlement by arbitration to the Industrial Court. The hearing took place in London on August 18, and the award was issued by the Arbitrator on August 31 last.

At the Court the Federation was represented by Messrs. C. R. Seddon, J. Dobson, E. W. Allen, Commander W. B. Pirie, Messrs. A. L. Sharpe, H. Cremer, A. Baker, J. D. Tod, H. Goldstraw, C. H. Sanguinetti, D. Callender, A. W. Foster, W. Dyson, and J. L. Merchant. The Executive Council beg to acknowledge their obligation to the delegates who attended the Industrial Court, and argued the case on behalf of the Federation.

The Award forms the basis of the new Agreement with the Unions which is now on the point of completion.

During the negotiations with the Unions, the question of grading the mills in accordance with their varying economic conditions was raised, and although it was found impracticable to introduce grading into the new Agreement, a clause has been embodied under which the subject shall be considered during the ensuing six months.

A recommendation has been made by the Federation to the members to employ disabled ex-Service men to the extent of 5 per cent. of the employees in accordance with the National Scheme.

The formation of a Joint Industrial Council has been held in abeyance. A further effort is now in progress, and an application will be made to the Trade Board Section of the Ministry of Labour to authorise the formation of a Council.

The membership of the Federation has been sustained, and much progress has been made in all the districts. The Executive Council have confidence in stating that the older the Federation gets, the more vigorous and effective it becomes.—

By Order of the Council,
(Signed) CHARLES R. SEDDON,
Chairman.

COMPLIMENTARY BANQUET AND PRESENTATION TO MR. C. R. SEDDON, J.P.

What was described as a complimentary banquet to Mr. Seddon took place at the Hotel at 7.30, when, in addition to the members, a number of Mr. Seddon's personal friends were invited.

Mr. R. C. Cowan (of Messrs. Alex. Cowan and Sons, Ltd., Valleyfield Mills, Penicuik, Midlothian), chairman of the Scottish Section of the Federation, presided, and was supported on his right by Mr. C. R. Seddon, J.P., Mr. J. D. Tod, Mr. John Seddon, Mr. J. Luke, J.P., Mr. W. L. Tod, Mr. W. Goldshaw, Ald. Collinge, Mr. W. Kirkman, and Mr. J. L. Geddes, while on his left side were seated Mr. E. W. Allen, Rev. L. Kershaw, M.A., Mr. A. Baker, Mr. A. E.

Holmes, Mr. Stanley Welch, Mr. F. E. R. Becker, Mr. Stanley Cousins, Commander Pirie, D.S.O., R.N., and Major S. Woodcock. Among those present we noticed Mr. J. E. Jepson, Mr. D. Clegg, Lt.-Col. Chadwick, Major Chadwick, Mr. Albert Kay, Mr. Carter M. Dyson, Mr. A. M. Ward, Mr. J. Walton, Mr. Rustad, Mr. J. E. Jepson (jr.), Mr. J. S. Rixson, Mr. J. Ridings, Mr. A. Ogden, Mr. Lewis Clegg, Mr. J. Singleton, Mr. J. Singleton (jr.), Mr. E. Richardson, Mr. R. K. Kirkpatrick, Mr. S. Riley, and Mr. H. A. Stukins, Mr. A. C. Wilby (sr.), Mr. S. Clayton, Mr. A. C. Wilby (jr.), Mr. Hy. Wilkinson, Mr. W. L. Heaton, Mr. J. Keogh, Mr. Harvey-Thorp, Mr. C. H. Peckstone, Mr. Felix Thomas, Mr. A. E. Gooding, Capt. W. E. Nuttall, Mr. A. W. Foster, Mr. L. Merchant, M.B.E., Mr. Tom Armstead, J.P., Mr. J. E. Dennis, Mr. H. Cremer, J.P., Mr. D. S. Wallace, Mr. W. Chadwick, Mr. J. Ridley, Mr. T. D. Nuttall, C.B.E., Mr. S. Whitehead, Mr. Huddleston, Mr. J. Dixon, Mr. S. Chadwick, Mr. G. Buchanan, Major Cropper, Mr. Ralph Reed, Mr. P. Duxbury, Mr. J. Wolstenholme, Mr. James Hodge, Mr. James Lomax, Mr. T. Cranshaw, Mr. T. G. Newlands, Mr. W. Porritt, Mr. Wm. Watson (jr.), Mr. James Stewart, Mr. James Makin, Mr. John Nuttall, Mr. Wm. Ross, Mr. D. Callender, C.A., Major J. T. Crookes, Mr. Wm. Clough, Mr. C. Halliwell, Mr. John Turner, Mr. S. H. Reushaw, J.P., Mr. John Dolson, Mr. A. L. Sharpe, Mr. G. H. Mason, Mr. P. H. Greenhalgh, Mr. R. B. Rigby, and also the representatives of the following newspapers and journals:—*THE PAPER MAKER* (Mr. G. Rigby), *Paper Trades Review* (Mr. Foster), *Daily Mail*, *Bury Times*, *Manchester Guardian*, and *Daily Dispatch*.

Advantage was taken of the occasion during the evening to make some acknowledgment of the value and importance of Mr. Seddon's work on behalf of the Federation and the papermaking industry generally, by presenting him with his portrait in oils, a reproduction of which will be found on another page.

The oil painting is the work of Mr. George Henry, of Chelsea, and is mounted in a handsome gold frame. The portrait is considered, by those who have seen it, to be a really excellent, lifelike work, reflecting the highest credit upon the artist, who has already a high reputation for portrait painting.

To show the unanimity of feeling and desire to do honour to Mr. Seddon, there had been a certain amount of rivalry as to who should have the honour of making the presentation and it was eventually decided, in order that Mr. Seddon might be assured of the cordiality of feeling from all sections of the Federation, that members from the Northern, Southern and Scottish districts should participate in making the presentation. Accordingly Mr. E. W. Allen (Northern), Mr. Arthur Baker (Southern), and Mr. J. D. Tod, J.P. (Scottish section) were deputed to carry out the pleasing function of formally presenting the portrait.

Letters of apology from several members of the Federation regretting unavoidable absence and sending best wishes for a successful and happy gathering and long life and happiness to the guest of the evening were read.

A feature of the gathering was the presence of several members of the Paper Trade Union.

The formal presentation was in the hands of Mr. E. W. Allen (Northern Section), Mr. Arthur Baker (Southern Section), and Mr. J. D. Tod (Scottish Section).

Mr. Allen said recognition for the invaluable services so ably rendered by their Chairman during the past seven years as Chairman of the Federation was long overdue. When the question of the presentation was first mooted, it was taken up most heartily by the three sections of the Federation, and the difficulty had been to fix the maximum sum to be accepted from the members. Many had requested to be allowed to contribute far more than the maximum sum fixed, showing the high esteem and affection in which

Mr. Seddon was held in the paper trade generally, and the members of the Federation in particular. (Applause.) One of the most enthusiastic members of the presentation sub-committee was the late Mr. T. Y. Nuttall, who would have been a proud man that night had he been spared to take part in that night's proceedings. (Hear, hear.) Mr. Allen referred to his 20 years' friendship with Mr. Seddon, and said that he had always found him a man of his word, a true friend, and a most valuable colleague in the Federation, or in anything he put his hand to. (Applause.)

Mr. Baker said since he had known Mr. Seddon he had learned to love and admire his many qualities of mind and heart, and he fully endorsed all that Mr. Allen had said about his work in founding the Federation and putting it on the sound footing it enjoyed to-day. (Hear, hear.) For the hours and days he had devoted to the interests of the Federation and the paper trade and the workers, they would never be able to repay him or over-estimate the value of his work. (Hear, hear.)

Mr. Tod said in the name of the Scottish Section of the Federation he heartily endorsed all that had been said about his old friend, Mr. Seddon. They had had the benefit of his good advice, born of ripe experience, which had simply been invaluable to the work and success of the Federation, and he was delighted to be present when they were doing honour to one who was beloved by every section of the paper trade. (Hear, hear.)

The company received the toast with musical honours, and the greatest enthusiasm.

Mr. Seddon said he had been deeply touched with all the kind things that had been said of him, which he sincerely appreciated. The artist, Mr. George Henry, had bestowed immortality upon his humble features—(laughter, and hear, hear) and he could assure them the magnificent oil painting would be treasured by himself and his family as long as life remained, being a handsome expression of their goodwill towards him. With regard to Federation work, he had done it freely, and had had many pleasant associations with his colleagues, and whatever differences of views had been expressed, they had always parted the best of friends and with the most perfect harmony, all being animated with the best spirit and intentions for the good of the Federation and the paper trade generally. (Hear, hear.)

Mr. Seddon referred to the valued services of their General Secretary, Mr. Merchant, who had been of great assistance in carrying on the meetings and arranging the business, etc. He was very pleased to see representatives of the Workers' Union present (hear, hear). He was thankful that there was a better understanding between the employers and the workers, and when they met to discuss hours, wages, or whatever business they had to transact, there was always a reasonable spirit shown on both sides, which enabled them to come to a common agreement. He hoped the same friendly relations would be always maintained. They had arrived at the time when the lamb and the lion were lying down together—he would not attempt to say which was the lion and which the lamb (laughter).

In conclusion, Mr. Seddon begged to thank them for doing him the great honour of making him their President that day. He could only say he would continue to do his best for the Federation and the paper trade generally as far as possible, and his strength and ability would permit. He would never forget the kindness and honour they had bestowed upon him on that memorable occasion. (Applause.)

Other toasts were "The Employers' Federation of Paper Makers," proposed by Mr. A. E. Holmes, Mr. H. Goldshaw responding, and "The Chairman," proposed by Mr. James Luke, J.P., and responded to by Mr. W. C. Cowan, J.P.

Songs and selections of music were given at intervals, and the function came to a close shortly before eleven o'clock.

SULFITAKTIEBOLAGET GÖTA

— GÖTA, SWEDEN. —

Manufacturers of

G. T. WOOD PULP

EXTRA STRONG AND CLEAN.

*Dry, Unbleached Sulphite
Cellulose Pulp.*

*Wet, Unbleached Sulphite
Cellulose Pulp.*

Annual Output : 25,000 tons, dry weight.

Agents for Great Britain and Ireland :—

O. REICH & Co.,

STUART HOUSE, 1, TUDOR STREET, E.C.4.

MR. C. R. SEDDON, J.P.

A STRIKING SKETCH OF HIS CAREER.

LIKE many other men who have attained to prominence in the paper-making industry, Mr. C. R. Seddon may certainly be said to have risen from the ranks. He was born on June 4, 1860, his parents at the time living in a house in the mill yard at Arden Paper Mills, Woodley, near Denton. His earliest recollections and interests were naturally centred at Arden Paper Mills, and it was here he commenced working full time in February, 1872. For the first two years he was in the mill offices, but all his ideas and instincts being for mechanical and practical work, he was transferred to the mill to receive a practical training as a paper-maker. From 14 years of age until he was 20 he worked in the various departments of Arden Paper Mills, including engineering, right through from the preparation of raw materials to the machine house. Subsequently, in order to afford him a more thorough mechanical training, he left the mills temporarily and worked as an "improver" at a well-known engineering works at Hyde, where he was employed in the turning, fitting and erection departments. It will thus be seen that from Mr. Seddon's experience and training in the practical work, both of paper-making and engineering, together with the time he was spending in study as a young man, he was becoming splendidly equipped for the position which he was to occupy so eminently in later years.

It was intended that, after finishing his engineering training, he should return to Arden Paper Mills; in the meantime, however, these mills had been closed, and in January, 1884, he took up the position of engineer at Messrs. Yates, Duxbury & Sons, Hall-i'-the-Wood, near Bolton, occupying this position until January, 1888, when Messrs. Duxbury acquired the Heap Bridge Mills. Here he acted as an engineer, but in August of the same year was appointed works manager, and he remained in this capacity until August, 1897.

The decisive event in the career of Mr. Seddon was his taking up the position of Manager of the East Lancashire Paper Mill, Radcliffe. Here he quickly commenced the rebuilding, re-construction and re-equipment of this mill, which he brought to the highest state of efficiency, and which

will always remain a testimony to his ability, thoroughness and perseverance. In August, 1897, when Mr. Seddon became manager, the business of the company was at its lowest ebb. No dividends had been paid for the previous seven years; there was a heavy outstanding bank balance; the market value of the £10 shares had fallen to between £2 and £3; the mill was working "short" time, and was

handicapped with many tons of "dead" stock; the building and paper-making machinery were in a very bad condition; the steam plant likewise, and most of the water for manufacturing purposes had to be taken from the river. Such a condition of things would certainly dishearten any manager, and Mr. Seddon frankly admits that at first he thought he had undertaken an impossible task.

The estate now owned by the East Lancashire Paper Mill Company covers 54 acres, of which the mill occupies about six acres. The water rights are considerable, the gathering ground extending five miles to the north of the mill. There are three fresh water reservoirs with a total capacity of 50 million gallons, with mechanical filters. River water is used for boiler and condensation purposes only, and is stored in two large reservoirs, and after precipitation passes through a filtering and softening plant. The whole of the buildings have been renovated and re-roofed throughout; in many cases the walls have been

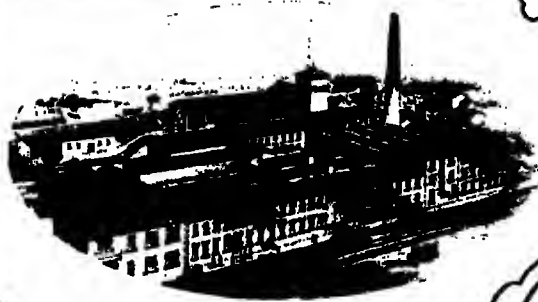


MR. C. R. SEDDON, J.P.

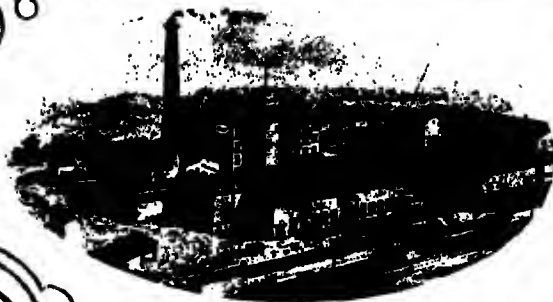
(Our reproduction of the Oil Painting is from a photograph by A. C. Cooper & Co., King Street, S.W.1.)

raised so as to give additional height, and large extensions have been made. An entirely new steam and power plant has been provided, together with electric driving and lighting. Of the original paper-making machinery there only remain a few cylinders in one machine. The whole of the plant and machinery throughout the mill has been renewed. Whereas the weekly output was 140 tons, to-day it is 310 tons. Whilst all these alterations and improvements have been carried out, the company, under the wise and able guidance of Mr. Seddon, has been able to meet the expenditure year by year without raising additional share capital. In fact, within the first six months of Mr. Seddon undertaking the management, the working of the mills showed a balance on the right side, and in December, 1898, the company paid a dividend, the first

Yates Duxbury & Sons Ltd.



MILL NUMBER
153.



MILL NUMBER
208.



Heap Bridge Paper Mills BURY, LANCS.

Makers of

**Fine E.S. Printings and Writings
Antique Laid and Woves
E.S. Cartridges & Parchment Woves
Superfine Tinted Writings**

Packing for Export a Speciality

Sole London and Export Agents :

CHARLES E. CORKE & CO.
45, LUDGATE HILL - - E.C.4.

Telephones:
CENTRAL 802 & 803.

Telegrams:
"INTERWOVEN, CENT, LONDON."

for eight years. Since then, large amounts have been placed to reserve, and the dividends paid have averaged about 15 per cent. on the subscribed capital. The shares of the company are eagerly sought at a price which represents £40 on an original £10 share.

Mr. Seddon was made a director of the company in February, 1902, and shortly afterwards was appointed managing director. It must be exceedingly gratifying to Mr. Seddon that he has been able to see the full fruition of his 23 years' work at East Lancashire, and that he has been able himself to train his son, Mr. John Seddon, to follow in his footsteps. Mr. Seddon, junior, was appointed works manager of the mill in 1907, and a director in 1912, and gives every indication of his ability to carry forward the excellent work which his father has accomplished.

Up to a few years ago Mr. Seddon took a great part in the work of the Paper-Makers' Association, and was Chairman of the Northern Section for two years, but latterly his chief interest has been connected with the Employers' Federation of Papermakers, with which he has been associated since its inception.

It was in the Thatched House Hotel, in Manchester, during April, 1913, that he and several Northern paper-makers met to consider the advisability of forming an Employers' Federation to enable paper-makers to bargain collectively with the Unions, and to encourage uniformity in wages and conditions of labour. Mr. Seddon was appointed to the chair, and he has since that time, with the unanimous support and approval of the members, held the position of President of the Federation. The movement spread to other parts of the kingdom, and a District Board was formed for the South of England, and subsequently Scotland came into the Federation under the direction of the Scottish District Board. The Federation is now completely representative of makers of paper throughout the United Kingdom. Under Mr. Seddon's guidance, and with the loyal assistance of his colleagues on the several boards, the activities of the Federation have advanced to the point when it may be truly said that the whole of the Paper Trade is Federated, and in a position to express the views of the trade as a whole upon any question affecting working conditions, and thus it is able to confer and to co-operate in its corporate capacity with representatives of the Unions on matters relating to the employment of labour. Although Mr. Seddon is regarded as an expert in everything relating to the manufacture of paper, there is no avenue of the industry in which he shows more conspicuous ability than in dealing with the problem of labour. Last year was the first time in the history of the trade when national conditions and standard rates were achieved, and it is largely due to Mr. Seddon's knowledge of the psychology of the worker that this result was achieved. He is loyally supported in the chair by all members of the Council, and he attributes to this support the fact that two national agreements with the Unions have been concluded under the auspices of the Ministry of Labour. Before the Industrial Court, Mr. Seddon argued on behalf of the Federation, and it is admitted that he put the case for the employers with a skill and aptitude which could not have been excelled. His desire and intention has always been to deal fairly with the workers, and in his conduct of the affairs of the Federation he has gained the regard and respect of both the employers and employees.

During the war his activities were many and varied. When there was a great outcry owing to the shortage of shells in May, 1915, Mr. Seddon started shell-making at East Lancashire, and delivered his weekly quota of 60 lb. shrapnel and 4.5 H.E. shells. In May, 1915, when a Munitions Board was formed for Bury and District, Mr. Seddon was welcomed as a member, and his experience proved valuable to the other members of the Board. Mr. Seddon was also chairman of the Radcliffe Recruiting Advisory Committee from its formation to the end of the war. He was on the

committee of the Radcliffe Red Cross Hospital. When the hospital authorities were called upon by the Government to enlarge the accommodation, Mr. Seddon made himself mainly responsible for the extension to accommodate 30 beds. This to-day is known as the "Seddon" Hall. Mr. Seddon was President of the Radcliffe War Weapon Week, which raised £200,000 (equivalent to £8 15s. per head of population), and at the present time he is Campaign President of the Radcliffe Y.M.C.A., the new premises of which are to be opened shortly by H.H. Princess Marie Louise. He is also President of the St. John's Ambulance, Radcliffe.

When there was a scarcity of roofing felt during the war, to meet the needs of the War Office Mr. Seddon commenced making this material on a paper-making machine, and afterwards was appointed adviser to the War Office with a view to increasing the production of roofing felt. Again, when the Ministry of Munitions Explosives Department could not get sufficient strawboard, he also commenced making this material on a second machine. Such is the war record of a busy man.

On the signing of the Armistice, instead of finding that relaxation from his numerous and onerous duties which for his health's sake was essential, Mr. Seddon found the greater part of his time taken up attending conferences and meetings in London. His work as President of the Paper-makers' Federation was exceptionally heavy, and will be remembered for a long time. It included, with the assistance of his colleagues, the framing of the first National Agreement with the Unions, which has been referred to as "The Papermill Workers' Charter of Liberty," and provided national standard rates of wages and a reduced working week. In addition to the many meetings necessary to negotiate this agreement, Mr. Seddon represented paper manufacturers on the National Industrial Council which was formed in February, 1919, and on this latter work alone spent many weeks in London attending committees, often early and late. He was also a member of the Board of Trade Committee appointed to "investigate the condition of the paper industry" in April, 1919, on whose recommendation the Government continued the restriction on imports until such time as paper manufacturers should be in a position to compete on fair conditions.

Mr. Seddon is a J.P. for the County Palatine of Lancashire, and is connected with the following Companies:—Managing Director, East Lancashire Paper Mill Company, Ltd.; Managing Director, Ramsbottom Paper Mill Company, Ltd.; Managing Director, Preston's Digester Lining Co., Ltd., Radcliffe; Chairman of Directors, Pioneer Rooms & Power Co., Ltd., Radcliffe (Cotton Mills); and a Director of Radcliffe Paper Mill Company, Ltd.; Watsons (Ballinfield), Ltd., near Dundee; Messrs. Jacobsen-Welch and Company, Ltd., Ufye; Hfa! Hfa! Bay Sulphite Company, Ltd.; Spanish and African Esparto, Ltd.; and the Bury Chamber of Commerce.

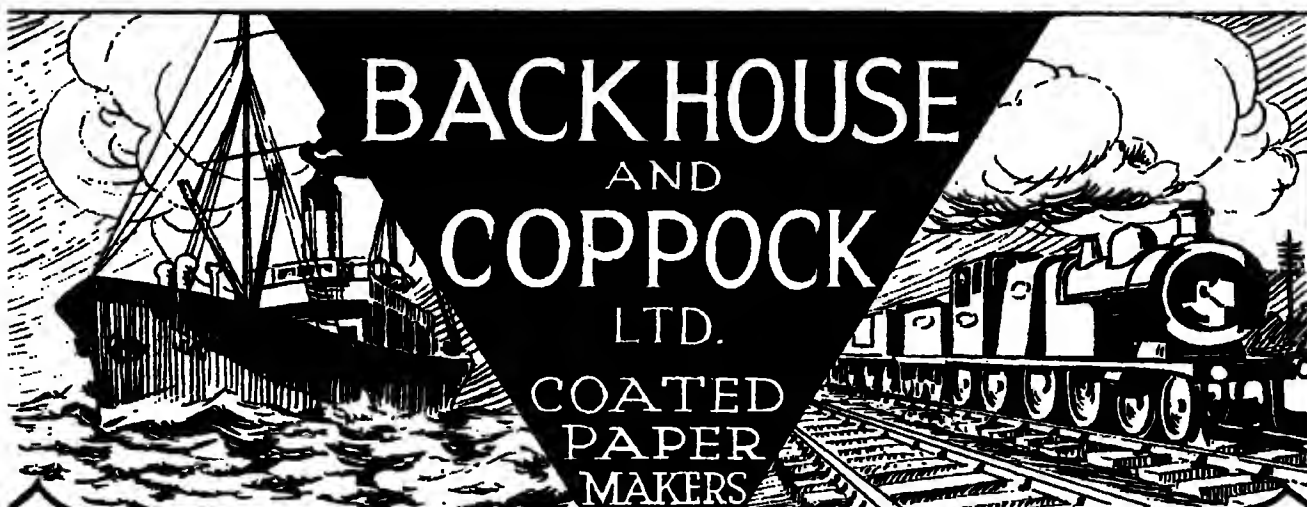
LATE NEWS.

PRICES OF SCANDINAVIAN PAPER.

We have received the following cablegram from a Stockholm correspondent relating to the decision arrived at a meeting of the Norwegian and Swedish Paper Makers' Association held at Christiania a few days ago:—

STOCKHOLM, November 3rd.

Christiania decided reduce greaseproof, sulphite, Kraft, ten per cent.; bleached paper, no reduction; reduced production maintained; German and Continental competition badly felt.



Manufacturers of

Chromo Papers and Art Boards for Lithographers—White & Coloured Bright Enamels for Toilet and Fancy Labels—Coloured Surface Coated Papers for Cigarette, Tobacco and Soap Wrappers and Labels—Gummed Papers—Leatherettes—Calf Papers—White and Coloured Enamels for Box Makers—Baryta Coated Papers for Photographic Sensitizers—White and Coloured Enamelled Folding Box Boards.

*Buyers are invited to write to
Head Offices, Salerooms & Warehouses*

**16 FARRINGTON STREET
LONDON · E.C.4
MILLS · MACCLESFIELD,
ENGLAND**



THE Paper - Maker

AND

British Paper Trade Journal,

WITH WHICH IS INCORPORATED THE

WOOD PULP MAKER,**THE INDEPENDENT AND PRACTICAL JOURNAL FOR
THE PAPER TRADE.**

Founded by S. CHAS. PHILLIPS, M.S.C.I., &c.

Subscription, 21/- per Annum. Post Free.

Published on the 1st of Each Month.

EDITORIAL, ADVERTISEMENT, AND PUBLISHING OFFICES,

47, CANNON STREET, LONDON, E.C.

Branch Office: 448 and 450, Produce Exchange, Manchester.

Telegraphic Address,

"SONISA, LONDON."

"SONISA, MANCHESTER."

Telephone: No. 5422 (Bank).

A.B.S. Code 5th Ed. No. 14 City Manchester

ADVERTISEMENT TARIFF.

For Consecutive Insertions for not less than one year.

For ordinary issues only.

ONE PAGE	..	..	..	£10	0	0	PER INSERTION
HALF-PAGE	..	..	..	£5	10	0	"
THIRD-PAGE	..	..	..	£4	5	0	"
QUARTER-PAGE	..	..	..	£3	15	0	"
FIFTH-PAGE	..	..	..	£3	5	0	"
SIXTH-PAGE	..	..	..	£2	17	6	"
EIGHTH-PAGE	..	..	..	£2	10	0	"

Twenty per cent. extra will be charged for less than one year's consecutive insertions.

Special Positions from £15 15 0 per insertion.

Double Rate for Annual and International Numbers.

SPECIAL PAGES IN COLOURS EXTRA.

Parliamentary Notices, Prospectuses, etc., 2/6 per line, calculated single column.

Small Single column advertisements, such as Wants, &c., 2s. per line.

Alteration in current Advertisements must reach this Office not later than the 15th of each Month prior to the publishing date, as owing to the increasing circulation of this Journal we are compelled to commence printing early.

Vol. LX.

NOVEMBER 1, 1920.

No. 5.

PROTECTION.

THE word "protection" appears to act as an irritant in certain quarters, but facts, however unpleasant and unpalatable, must be faced. We say quite frankly there is little prospect of a protective tariff being put upon paper imported into this country, but it may not be impossible for paper-makers to suggest some form of justifiable protection. It must be realised that the large consumers of paper in Great Britain, as in other countries, have sufficient influence to make their wishes felt by those in authority.

When a year ago we suggested that before the end of 1920 Germany would be in the field again as competitors the idea provoked some ridicule, and a member of the Government lightly observed that British manufacturers who desired that Germany, having sacked France and Belgium, and loaded this country with appalling debts—whilst cute enough to preserve her own mills intact—should be kept out of our markets until we could compete on even terms, had no justification for concern. We were also told that the poor broken German was quite out of the hunt—commercially—for a long time to come. As a matter of fact we have imported from Germany during the nine months of this year ending September 30th, 15,734 tons of paper of all kinds.

To-day British paper-makers must realise that paper is being made in Germany and sold for export at prices which must compel serious reflection.

So long as the rate of exchange remains at anything like the figure it is to-day Germany can undersell the British mills and undermine the market.

We are told that recent deals in German paper can have no permanent influence on the general market. That optimistic view cannot be justified, and British traders might consider whether it is practicable to devise any equitable means of adjusting the exchanges.

One correspondent suggests that reels and reams should bear the source of origin—plainly marked. This might do good, but many buyers are, of course, well aware as to the source of origin, and it is no secret that many of the great wholesale stationers have placed orders for substantial quantities of German paper both for export and for consumption in this country. It is well to realise that Germany will shortly be making paper in large quantities and are concentrating on securing their lost markets. At this moment paper made in Germany is being sold by neighbouring countries, and there is a good deal of money in this sort of business.

The late President of the Board of Trade may have honestly believed traders who asked that Germany should be handicapped were timid alarmists, but the bogie has materialised, and unless some reasonable form of protection can be devised British paper-makers may anticipate very anxious times.

Whether the promised Anti-Dumping Bill will be of much value is doubtful—so long as the exchanges are upside down. We predict that the next six months will prove to be a very critical period for the British paper trade, and even at this moment the position is a very anxious one.

(See also pages 684 and 685.)

"Foster Imperial Trade"

(MR. LLOYD GEORGE)

AND SPECIFY

WAYAGAMACK KRAFT.

Canada gives a 33½ per cent. Preference to British Manufacturers.



"The equal of any Scandinavian Kraft Paper, and a matter for congratulation that such a high quality is being produced in the British Empire."—Extract from *World's Paper Trade Review*.



MADE IN BRITISH EMPIRE.



SOLE AGENTS:

Hodge-Sherriff Paper Company,

CRAVEN HOUSE, KINGSWAY, W.C.2. 117, RUE CAULAINCOURT, PARIS, 18e.

Telephone: REGENT 402.

MY NOTE BOOK.

"A chief's among ye takin' notes."

The 1920 Autumn Dinner of the S.S.S. will certainly rank as one of the great nights in the history of this unique Society, and Mr. Horsburgh is infusing considerable life and originality into his presidency.

It is, of course, fair to remember that Mr. W. J. Whyte, the Immediate Past President, did very well during a period of unprecedented difficulties. I imagine that most people having endured bereavements, great anxieties, air raids, silly D.O.R.A. controls, E.P.D., etc., are disposed to relax, and Mr. Horsburgh has met the members more than half way.

On October 22 speech was subordinated to excellent music and conviviality, and Mr. Mackenzie and Mr. Mist were fittingly given a special vote of thanks for the excellent arrangements.

The President set an excellent example in the matter of brevity. Mr. G. H. Wilkinson gave an admirable little speech, and Mr. John Sherrard made his *debut* as an after-dinner orator of remarkable eloquence so the Matt. Henry platoon assert.

Mr. Horsburgh's year of office will be marked by two pleasurable innovations—the golf contest, and a social gathering to take place at the Stationers' Hall on the evening of November 22nd. Many years ago I hammered away at the fact that the very sociable stationers were doing themselves and the Society an injustice by not admitting the ladies to their gatherings occasionally. At one committee meeting, so I was told, an irate ladies' man said some of the members were either ashamed of their wives or too mean to buy them a new dress—a shocking indictment. But the ladies won, and everything has gone on happily since, and I have no doubt the venerable Stationers' Hall will be the scene of a discreet revel.

As there seems to be little likelihood of the powers that be permitting the use of the Stationers' Hall for club purposes, why should not the S.S.S. organise a Stationers' Social Club? Some centrally situated meeting place in the City would be a boon and run on good class lines would pay and be popular.

I am sorry to hear that one of the old stalwarts of the S.S.S., Mr. D'Oyley Mears, has had a relapse and is ill. Those of us who saw him at the golf match were congratulating him on his new lease of life and the fact that he looked so well.

One notable absentee from the Autumn Dinner was Major R. G. Craster, V.D., who has recently suffered a very sad bereavement. On turning up my file of programmes I could scarcely realise that Major Craster presided at the 17th Annual Dinner of the Social Society held at the Holborn Restaurant on March 2, 1901. The programme is interesting as a reminder of the changes the trade has seen during the past nineteen years.

The officers in Major Craster's year were: President, Capt. R. G. Craster; Vice-President, C. D'Oyley Mears, Esq.; Hon. Trustees, Mr. John Mackie and Mr. E. T. P. Rochfort; Hon. Secretary, Mr. W. Robinson; Hon. Assistant Secretary, Mr. R. W. Fuller; Auditors, Mr. H. Davis and Mr. Matt. Henry; Committee: Messrs. M. Barnard, R. Braithwaite, F. L. Cayzer, W. H. Cook, W. W. Horsburgh, G. S. Weeks, and James Wilson.

The toast of "The Paper Trade" was proposed by the Lord Mayor (the late Sir Frank Green, Bart.), and Mr. I. MacMaster replied. The Chairman gave "The Society," coupled with the name of "John Mackie, Esq.," and Mr. T. Fraser Black, J.P., responded for the officers. The toast of "The Visitors" was acknowledged by W. H. Horsburgh, Esq., and Mr. Arthur Monekton submitted the concluding toast, that of "The Chairman." It will be noted that of the speakers on that occasion four—Sir Frank Green, Bart., John Mackie, T. Fraser Black and Arthur Monekton—have passed away.

Some wag writes me that he is thinking of going to Canada, and, "being in the paper trade," would like to know, before he books his passage, if Canada is really dry?

I have heard of private anti-Pissifoot gatherings being held in Canada, but cannot give first-hand information on the subject. I happen to have before me a paper which contains a report of a case in which, curiously, the defendant was fined \$200 for having intoxicants in his own house. I read that the offender had previously been convicted, and that when an individual living in a private house is convicted of an infraction against the provisions of the Temperance Act, his house ceases to be a private dwelling house and becomes a public place so long as he resides there. Trust this information will cheer "Old Subscriber" up.

The Hon. Morton Weir, son of Lord Inverforth, has acquired the major portion of Sir Henry Dalziel's interest in the *Pall Mall Gazette*. No change of policy is involved.

In Mid-Atlantic and elsewhere recently I had the pleasure of meeting two well-known and influential labour men who directly and indirectly have much influence in the paper and allied trades. I heard one or two free discussions, not for publication, and I must admit that in one of these Mr. Naylor, who is well-informed, and seems to enjoy argument, certainly held his own against a big newspaper director.



MR. T. E. NAYLOR.

At Lauretide I caught Mr. T. E. Naylor in cheerful mood. Like most Labour men who count Mr. Naylor has gone through the mill, and has earned promotion and the confidence of those he represents. He was born in London, March, 1868. He entered the printing trade at the age of thirteen as a compositor, and passed from the composing room to the reading room, and afterwards to the editorial department.

He was elected General Secretary of the London Society of Compositors, March, 1906, and still holds that position. He has been editor of the *London Typographical Journal* since 1906, when the Journal was established. He is author of "The Rules and Conduct of Debate," "Principles and Practice of Newspaper Make-up," and is well-known as a writer and speaker on industrial economics. He is chairman of the London Printing and Kindred Trades Federation, vice-chairman of the London Printing Trades

Committee for the Training of Disabled Soldiers, chairman of the London Joint Council of Trade Unionists and Co-operators, and chairman of the London Labour Party, and has caused master printers and their customers - of whom I am one - many sleepless nights.

I present a "snap" of the youngest member of the Imperial Press Party which recently visited Canada. Diminutive Miss Isaacs is the daughter of the Mayor of Southwark, Mr. G. A. Isaacs - who may possibly be recognised in the picture. Mr. Isaacs is the General Secretary of the National Society of Operative Printers and Assistants. He has served on the Executive Council of the National Printing and Kindred Trades Federation, of which he has been elected vice-president. The year before the outbreak of war he paid a visit to Berlin as a delegate of the London Trades Council, and made a special study of trade union organisation. He afterwards pursued similar investigations in America, and arranged the first agreement between the unions of England and America on trade union action. He is secretary of the N.S.O.P. and A. National Insurance Section also an Associate of the Faculty of Insurance (A.F.I.). He is a member of the Executive of the Industrial League and Council, also a member of the Executive of the Higher Production Council, and is vice-chairman of the Southwark Labour Advisory Committee and president of the Southwark Trades and Labour Council. Mr. Isaacs has also served upon the General Council and the Executive of the Workers' Educational Association.

In 1918 he contested a Parliamentary seat for North Southwark in the Labour interest, and at the present time is a member of the Southwark Borough Council and Mayor of that Borough. A strong supporter of technical education, he has arranged classes at St. Bride's School for printers' assistants. He is a member of the special committee appointed by both Employers' and Workmen's Federation to enquire into health conditions in the printing industry. He is also a member of the Labour Party's Sub-Committee on Public Health, and is treasurer of the Printers' Aid Association. In 1914 and 1916 Mr. Isaacs visited America as fraternal delegate to the Convention of the International Printing Pressmen and Assistants' Union.

Mention of Mr. Isaacs brings to mind a very interesting and human incident I witnessed recently at the Government

House at Ottawa, where the Duke and Duchess of Devonshire gave a garden party in honour of the visiting Pressmen and their ladies. The Duke and Duchess and their daughters were very homely and hospitable, as the genuine aristocracy invariably are, and, although the affair was official, His Excellency the Governor and family took a personal interest in every guest.



MR. G. A. ISAACS AND
LITTLE DAUGHTER.

Lady Maud Mackintosh, the young widowed daughter of the Duke and Duchess, was present with her little daughter, and I secured a picture of the two little ones, the granddaughter of the Duke and Duchess and the little daughter of Mr. Isaacs, playing together in the beautiful grounds of Government House.

I had a chat with the Duke on "old times," and reminded him of his first serious political speech when seeking to win the family seat in Derbyshire. The Duke said: "I remember very well - it was a very poor speech I'm afraid, but you gentlemen were kind to me." I had also the pleasure of showing the Duke a watch, presented to me by his beloved father - the late Lord Edward Cavendish - also a ticket signed by the late Duke, who, when Marquess of Hartington, gave me permission to fish at Chatsworth. I do not think there is another similar authority in existence at least, the late Mr. Gilson [Martin told me so.

The second Livery Dinner of the season at the Stationers' Hall was an unqualified success, and there can be no question that those luncheons are extremely popular and may become more so.



A PRETTY INCIDENT "SNAP" AT GOVERNMENT HOUSE, OTTAWA.

Further, those present were, almost without exception, of a class that is calculated to strengthen the company, but Mr. Edward Unwin, the Master, who is certainly genuinely desirous of making the company really useful, touched a tender spot when he expressed the hope that an effort would be made to increase the Livery numerically.

Without being at all offensive it may be mentioned that there is a feeling that whilst promotion by seniority is in principle good it is not invariably

so, and it is not unkind to suggest that many of the gentlemen who eventually reach the Mastership of the City Companies have arrived at a time of life when they are not disposed to entertain new ideas or to encourage any radical movements, however desirable.

As a matter of fact, Mr. Unwin was admitted in the

year 1871—49 years ago—so that with good luck a Liveryman who joined at the age of 50 might possibly attain to the Master's Chair by the time he reached the age of 99.

What is really needed is for the Master, Wardens and Assistants to get into closer touch with the Livery Committee. It is as well to recognise that many very eligible candidates for the Livery are not convinced that under present conditions there is very much inducement to become associated with the Stationers' Company.

A friend in Montreal writes: "One of our very good men is leaving by the ss. *Megantic* to take up his residence in London. I allude to Mr. Sherman, of the Canadian Export Paper Co., Ltd.

"Sherman is well possessed of pulp and paper conditions on both sides of the Line, is one of the nicest chaps it has been my good fortune to meet in the trade, and has a happy facility for making friends."

I also note in the *Montreal Gazette* the report of a very pleasant gathering, at which Mr. G. F. Steele, general manager, presented a "very fine travelling bag, containing a number of useful articles, to Mr. Sherman, manager of the Pulp Board Division, who, with his family, is taking up his residence in England, where he will represent Canadian pulp and paper interests."

I understand that Mr. Sherman has been five years in the sales department of the Laurentide Company at Grand Mere and Montreal, was two years at the front, and it is evident that he leaves Canada with the best wishes of the pulp and paper industry. He has taken an office in Blackfriars House, 20, New Bridge Street, E.C.

A few weeks ago I received a series of very cheerful postcards from Mr. Hugh Anderson, who was at that time enjoying a well-earned holiday in Switzerland. Now the many friends of Mr. and Mrs. Anderson are expressing their sincere sympathy in a particularly sad bereavement which has overcome them. Mr. W. J. Anderson, son of Mr. and Mrs. Hugh Anderson, lost his life in Ireland under peculiar circumstances, being accidentally killed by a comrade who was, as the newspaper puts it, "fooling with a revolver." Mr. W. J. Anderson, who has lost his life under these tragic circumstances, was shot through the heart. He has served in the Cameron Highlanders during the war, and subsequently joined the R.I.C.

On November 3 Mr. F. J. Court will be installed into the chair of "Papyrus" Lodge, which it is interesting to note will once again assemble at the Cecil Hotel. Mr. Court is not, strictly speaking, a paper man, but he has handled a good deal of paper in his time, being connected with the well-known firm of W. W. Sprague and Co.

I dropped in at the Cecil a few days ago to have a chat with Mr. Hobbs, who will be remembered as manager of the banqueting hall with Mr. George Harvey in the old days. I was shocked to learn that Mr. Hobbs had passed away a few days before, after an attack of pneumonia. He was much respected, and it was particularly hard luck that after a rough time in the war he should be taken with a fatal illness almost directly after he had been reinstated.

I notice that Count Herman Wrangel, G.C.V.O., Swedish Minister at the Court of St. James since 1906, has been appointed a member of the new Swedish Cabinet, with the portfolio of Minister for Foreign Affairs. The

Swedish Colony in London will deeply regret the departure of Count Wrangel, who for 14 years has so efficiently represented their native land here and taken so great an interest in their commercial and social life.

A large wholesale stationer told me a few days ago that business generally is "chaotic." He also said that one curious fact of the topsy-turvy market resulted in grass papers being cheaper than wood-free qualities and the result had been that mills other than esparto had very sensibly adjusted their prices to meet the new condition of things. He also added that there seemed to be a good deal of cross-purposes between certain mills who were supposed to be working together, and showed me some very interesting correspondence on this subject.

He further predicted that, when the pinch comes, the working arrangements in Finland, Sweden, Norway and in Great Britain will all be in danger of collapsing. He also showed me a particularly illuminating bit of information from Canada proving that these working arrangements are not always adhered to according to the strict letter of understanding.

A great deal of interest is being taken in Scandinavia in Dr. Kinnman's processes in connection with the production of soda pulp and by-products.

Some interesting information is to hand regarding the new process for producing motor fuel, which promises some help towards bringing down the exorbitant prices of petrol and motor oils now ruling. This process has been developed in connection with the manufacture of various raw materials for paper, and is due to the systematic and extensive researches made by Swedish engineers.

It is well known that alcohol is manufactured on a large commercial scale from the residual lye obtained when making wood pulp by the so-called sulphite method. This wood alcohol is, however, not a serious competitor of petrol, and, moreover, finds a more ready use in other directions. The new process is not only applicable to wood as raw material, but to any vegetable fibre now used in the manufacture of pulp for paper, such as esparto, straw, reeds, bamboo, etc. The scope is therefore very wide, and if applied on a large scale the yield would be of serious commercial importance.

The motor fuel obtained has the same or higher propelling effect as petrol and is even purer as to sooting, etc. This oil is entirely a by-product and is obtained with very little additional outlay when producing the pulp, and it can therefore compete strongly with petrol at a price which would be a substantial reduction on the fancy figure which the oil companies are demanding from users to-day. A syndicate is to be formed in this country for exploiting the process and commercial results will be available here soon. I can give details to anyone interested.

We observe that Mr. G. P. Fleming's thoroughbred "Bessie Bell" has won a big race in Ireland, starting at a good price. Mr. Fleming is a good all-round sportsman, and is probably one of the best rifle shots in Ireland. He is also an ardent football supporter and his enterprises cover a wide field.

We have been asked whether Mr. Fleming rode "Bessie Bell" himself in the race? Without any official knowledge on the subject, the answer is in the negative.

Was very pleased to have a chat with Mr. Lewis Evans a few days ago. Mr. Evans is looking very much better

BANKS

AT LOW PRICES.

MILLS:

414
High Wycombe

417
Londwater

430
Londwater

107
Halifax

111
Halifax

123
Iping

219
Bury



Printings

Writings.

Copying
Tissues.

Music and
Cheque
Papers.

M.G. Papers

Glazed
Imitation
Parchment.

Typewriting
Papers.

Greaseproof
and Krafts.

ALL ENQUIRIES TO THE HEAD OFFICES:

66, UPPER THAMES ST., LONDON, E.C.4.

TELEPHONES:
CENTRAL 981 & 1834. CITY 9051

TELEGRAMS:
"WOOD-PULP, CANNON, LONDON."

than he did a year ago, and his many friends will be pleased to hear that he is now quite restored to health.

We have received several communications from paper buyers concerning a recent instruction by the "New Government of Ireland" that Irish newspapers and Irish printing firms shall only use paper made in Ireland. This "Ireland for the Irish" policy is not a novelty but, it is now being pressed by new methods, and certainly some of the newspaper owners will not submit without a fight.

Heartly congratulations to Mr. C. R. Seddon on the well-deserved compliment paid to him on November 4th. I may here add that this issue has been kept back four days in order that we may give as early as possible a report of the Federation meeting and the subsequent proceedings.

In this issue we give also a very interesting article on Mr. Seddon's remarkably successful career.

During the war all sorts of queer people bobbed up as paper merchants, waste paper merchants, paper stock merchants, envelope manufacturers, etc., and some of them have already bobbed down again and others are seriously thinking of doing so, according to rumour.

Quite recently a gentleman called at our offices and asked us if we could put him in touch with a possible buyer for a large quantity of foreign "news." He told us frankly that he was not, strictly speaking, in the trade but was really in the coal trade. He commenced by asking the current price of "news," and was unable to say whether the consignment was in sheets or on reels, and had no idea of the size and no sample.

I told him that a certain live lord, who has a penchant for telling funny stories after dinner, had recently mentioned 2d. a lb. as the price in the near future, and if his friends were willing to deliver at anything like that figure probably he could do some business. The gentleman said he would cable to his friends and see what could be done.

The following morning we had a ring on the telephone and learned that the paper was at a Continental port, and the price was to be £40 per ton.

A correspondent has been kind enough to send me an official list of "Change of Name by Deed Poll." The recent changes are significant and would be funny if we ignore the obvious effect intended. Noah Marks Abramowitz, of Manchester, becomes Mr. Percy Mellor, Theodore Marie Creischer, of Glasgow, becomes Theodore Mansfield Mackey, and Ernest Augustus Isidore Gotz will henceforth be known as Ernest Grey. There are about twenty changes of this class in a recent list and a glance at the daily papers will show the extent of this sort of thing. The transition from Creischer to Mackay is sufficient to drive any good Scotsman to the whisky bottle.

I suppose it is one of the perquisites of the journalist to receive and enjoy frank criticism, and 'an old friend' is surprised that THE PAPER-MAKER should encourage the idea that the Germans are likely to make much paper for some time to come. I beg to differ, and can give convincing facts on the subject. I have before me a copy of *Der Papier-Fabrikant*, which contains a page advertisement inserted by a well-known American paper house,

with headquarters in Philadelphia, and branches in New York and Chicago. The advertisement reads:—

PAPIER-GROSSKAUFLEUTE UND
REPRESENTANTEN VON PAPIERFABRIKEN.
Wir suchen Verbindungen mit erst-
klassigen Papierfabriken. Wir sind in
der Lage, passende Papiersorten in den
Vereinigten Staaten, Cuba und Porto
Rico sowie in anderen Weltteilen abzu-
setzen. Unser Bevollmächtigter kommt
im September-Oktober nach Deutschland.

This seems to indicate that, not only have Germans paper to export, but that the American houses are well after what is available.

I note that Mr. Percival Marshall, a popular figure in the publishing world, and Chairman of the British Association of Trade and Technical Journals, has been giving his views on Canada, and he emphasises the fact that the peaceful penetration of the Dominions by means of American investments is a serious business. He says: "Examples may be found everywhere of industrial and commercial enterprises, backed by American capital, and managed by American citizens."



MR. PERCIVAL MARSHALL.

The paper market in Great Britain is in a puzzling and chaotic condition, and it is a fact that paper is being offered at less than the present price of pulp plus the cost of making. Many people holding stocks are compelled to sell and some of the figures reported can be accepted as a real indication of the market for future dealings. Many firms are pressed financially, and one concern, when called upon by the tax collector, said: "Here is the stock. I cannot sell it except at a ruinous price. You can sell it if you care to—my capital is there."

The iniquitous E.P.D. is largely accountable for a lot of loose dealing. A mill agent, on calling on an old customer, was told that a fairly large parcel of paper had been bought at considerably less than the mill price. "It cannot be our paper," said the agent. "It is," said the customer, "and I will show it to you." The explanation came along when the original buyer frankly admitted that he needed money and had sold at twopence per pound less than cost, and added: "It will come out of excess profits." It would be difficult to devise anything better calculated to hinder business enterprise and encourage loose methods than the E.P.D.

The name of Riordon represents all that is best in the commercial life of Canada, and I was honoured by meeting Mr. Charles Riordon, President of the Riordon enterprises, and Mr. Carl Riordon, Managing Director of the Riordon Pulp and Paper Co., Ltd.

It is a matter of history that John Riordon, the pioneer of the firm, established the now world-famed business in

CASEIN.
GLUES & GELATINES
STOCKS KEPT.

CHINA CLAY

For Paper-Making and Coating.

TALCUM.

ULTRAMARINE.

SATIN WHITE.

MINERAL WHITE.
BLANC-FIXE.

SAMPSON & WHITE Ltd.

6, Holborn Viaduct,
London, E.C.

the year 1857, and the Riordons have played a very important part, and will continue to do so, in the industrial growth of Canada.

John Riordon, the founder, was a paper merchant before launching out with his brother, Mr. Charles, in a small wrapping-paper mill in Ontario, and it is said the output of the original mill was about $1\frac{1}{2}$ tons per day. The progress of the firm has been steady and continuous, and probably the united interests now controlled by the Riordon Co., Ltd., include the largest area of pine and pulp wood holdings in the world. The company and associated concerns have in operation the following plants.

	Tons per annum
Kipawa Mill, bleached sulphite pulp	42,000
Merritton Mill, bleached sulphite pulp	9,000
Hawkesbury Mill, bleached sulphite pulp	40,000
Hawkesbury Mill, easy bleaching sulphite pulp ..	8,000
Ticonderoga Mill, soda pulp	11,000
Ticonderoga Mill, book paper	18,000

Present production	128,000
Addition to Kipawa Mill, in operation March, 1921	25,000

Total production pulp and paper .. 153,000

I found Mr. Riordon and Mr. Carl courteous if somewhat cautious, and as frequently happens with the real men of importance both these gentlemen were not disposed to "blow" as to their vast interests. It is no secret that the Riordon Company has been improving its plant and methods of scientific control with gratifying success, and there is no doubt that, particularly in regard to the productions of sulphite pulp, the Riordon undertakings are already in an exceptionally strong position and on the right way to strengthen their position very considerably.

When I come to deal with Canada as a pulp and paper country a little later on I hope to give this particularly interesting and important firm the attention it merits.

By the courtesy of Mr. R. H. Kirkham (Felber, Jucker and Co.), I am able to present on this page a couple of "snaps" taken at the recent Golf Tournament of the Lancashire Paper Trade Golf Society, held at Southport.

LANCASHIRE PAPER TRADE GOLF SOCIETY.



Reading from Left to Right :—Messrs. W. Taylor, J. R. Booth, H. Hollows (Secretary), R. H. Kirkham, and J. H. Robinson (Winner of the Partington Trophy).

LANCASHIRE PAPER TRADE GOLF SOCIETY.



Left to Right (Back Row) :—Messrs. J. H. Turner, F. Jackson, Major Alston, R. H. Kirkham, W. H. Cuthbert, and M. Higginbottom.

Left to Right (Front Row) :—Messrs. J. H. Robinson, M. Hollows, and J. Hopson.

Someone has been kind enough to send me a copy of a report of a London Branch of the Co-operative Society, Ltd. I read that "there are numerous developments awaiting attention which require capital for their consummation. The Co-operative Wholesale Society are finding their developments somewhat impeded by the fact that capital is not being subscribed as quickly as they require."

Another interesting item appears on the expenditure side, namely : "Grants to councils and election candidates, £143 7s. ; political and propaganda meetings, £274 5s. 10d. ; printing, stationery and literature, £360 13s. 9d." Then, as regards the disposal of surplus, £580 3s. 10d. is voted to the education fund, whilst the electoral representation fund is apportioned £625 18s. 8d.

There is rather a funny whine in regard to the corporation tax which reads thus :—

"Assistance was given to the Management Committee in their efforts to prevent this tax from being unjustly applied to Co-operative Societies. The protests made were unsuccessful. The Government which found it impracticable to tax war millionaires had no hesitation in taxing the savings of Co-operators. Your Committee was represented by the Secretary at the National Conference at Preston on September 15, and supported the amendment of the Stratford and other Societies to refuse to pay the corporation tax, the amendment being defeated by 400 votes. The lesson which is driven home to us once more is that we must organise the Co-operative vote and take a more active part in the political life of the country."

The significance of all this is, that while the principle of Co-operation is quite good, and people have a perfect right to trade with their own money, as they put it, there is no good reason, so far as the ordinary person can see, why they should be in a privileged position, and it certainly behoves our trade organisations to counteract this sort of thing. It is also obvious that judging by the speeches made by the solitary Co-operative member in the House of Commons, that those subsidised politicians interpret their public duties in a very narrow manner, as they are expected to do by those who find the funds.

STAR MILLS
LTD

GEO. CHURCH & CO.

STAR MILLS
LTD

STAR MILLS
LTD

WAXED WATERPROOF PITCH OILED AND MANIFOLD PAPERS

A TRIP TO CANADA.

THE WAYAGAMACK PAPER & PULP CO., LTD.

By J. L. GREAVES.

(Continued.)

I THINK I mentioned that whilst in Montreal - of pleasant memory - I had the honour and pleasure of lunching with Mr. Whitehead, president of the Wayagamack Pulp and Paper Co., and the other directors of that important and progressive concern.

I learned from these gentlemen much that was interesting and was impressed by the evident desire of the Board to cultivate business with Great Britain and also to maintain the principle hitherto strongly adhered to that the equipment at Three Rivers shall be as far as possible all British.

On a perfect August day, I carried out my promise to visit the mill, and after a three-hours' train ride I found myself at the largest Kraft mills in Canada - possibly the largest in the world.

Three Rivers is situated about equi-distant between Quebec and Montreal on the deep-water ocean channel at the mouth of the St. Maurice River, where it joins the St. Lawrence. This is undoubtedly one of the finest sites in the world for pulp and paper-making purposes, having excellent water and rail communications. It is also the outlet of what is fast becoming one of Canada's greatest manufacturing centres, the valley of the St. Lawrence, including its rapidly growing manufacturing towns of Shawinigan, Grand Mère, and La Tuque. Enormous water power has been developed on this river at Shawinigan and Grand Mère, controlled by the well-known

Shawinigan Water & Power Company, forming one of the largest power developments on the North American continent.

The Wayagamack Pulp & Paper Company, Ltd., owns some 1,100 square miles of forest in the upper reaches of the St. Maurice, the timber being floated down the river to the mill at its mouth. In addition, the Company have recently acquired the Breakey-Gaspé limits of 451 square miles and the Portneuf limits, near the Saguenay River, of 484 square miles. Some idea of the extent of the logging and pulp and paper industries may be gathered when it is stated that approximately 12,000,000 logs are cut and floated down the St. Maurice annually.

Mr. Whitehead greeted me cordially and was good enough to devote the day to my enlightenment and comfort.

If I may digress, I would here note the fact that Three Rivers is essentially French Canadian in environment, and a new town has grown with the mills, without effacing the ancient churches and convents, or effacing the natural beauties of majestic rivers and picturesque old residences of the French type.

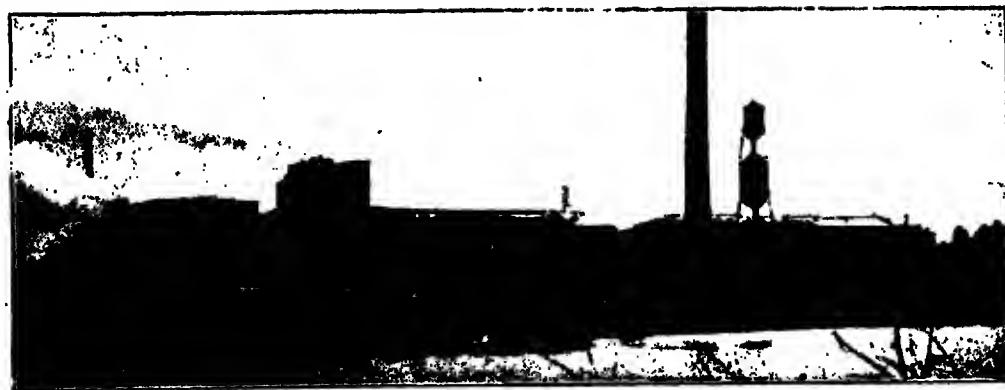
"If you had been here a few days later," said Mr. Whitehead, "you would have met Mr. Tom Nuttall - he is on the way out now," and a few minutes later I was shown the extensive prepara-

tions now being made for the reception and erection of the six additional machines now being constructed by Messrs. Bentley & Jackson.

I was reminded that it was in the winter of 1911-12, when Mr. T. D. Nuttall



MR. C. R. WHITEHEAD, PRESIDENT.



THE WAYAGAMACK PULP AND PAPER MILLS.



ENGLISH CHINA CLAYS LTD

Largest Clay Producers
in the World

500,000 TONS ANNUALLY

EXCEPTIONAL FACILITIES FOR PROMPT DISPATCH. DRYING
KILNS ALONGSIDE RAILWAYS—OWN SIDINGS AND TRUCKS.

DEPÔTS:

RUNCORN, GARSTON, FLEETWOOD, LEITH, BO'NESS, GLASGOW & CHATHAM

went out to Canada and returned with the order for the complete equipment, and the exceptional commission now entrusted to the well-known Bury firm is a remarkable testimonial as to the success of the original scheme.

The whole mill is admirably planned and well-equipped for economical handling and big output.

I learned that in 1911, when Kraft paper was being very largely imported into Canada from Scandinavia, it was thought advisable to build a mill to supply this need. Taking everything into consideration, it was decided that the St. Maurice district was the ideal location for such a plant. Large limits were secured on this river, together



I - Mr. G. HENDERSON, COMPTROLLER (Aberdeen).
 II - Mr. RICHARD COLLINS, GENERAL SUPT. (Bury).
 III - Mr. FRANK J. RITCHIE, MANAGER.

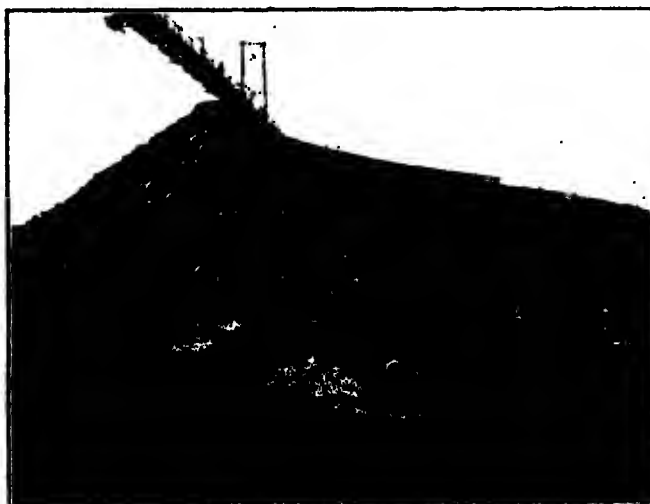
I was impressed by the care and attention devoted to the scientific and laboratory side of the business - where testing is thorough and systematic. And as I chatted with the gentlemen whose portraits I reproduce, I realised that these experts were inspired by the enthusiasm Mr. Whitehead displays in his work - and thus Wayagamack is happy in its exceptional strength and harmony.

with the islands at its mouth, and the works were erected on these naturally favoured islands.

At the inception of the company, matters were discussed very fully, and it was decided that if they went into the Kraft business it must be undertaken on a scale that would enable them to meet all competition. The Canadian market alone did not offer a sufficiently large field, and it



TIMBER IN PLENTY.



CONVEYOR AND LOG PILE.

was decided to first of all secure the markets of the British Empire, and afterwards extend operations to foreign countries.

Plans were accordingly prepared for a very large plant, the first part being so built that no changes or alterations would be required when the time came to make further



NEAR THREE RIVERS.

extensions. Two Fourdriniers were installed, and later on a Yankee machine was added, and the six new machines will bring the output of paper up to

THREE HUNDRED TONS PER DAY.

The present output is 200 tons of pulp and 75 tons of paper and as already remarked, quality is a first consideration — the chemical control being so thorough that nothing is left to guess work.

At the present time, in addition to the Canadian market, Wayagamack have their representatives in South Africa, Australia, and New Zealand, in which markets they are doing a very large business. They also export largely to South America, Japan, Siam, India and France, and Wayagamack paper is being very thoroughly introduced into Great Britain by Messrs. Hodge-Sherrill of London,



EN ROUTE TO QUEBEC.

and the Yankee machines, which are now being installed at Three Rivers, are particularly designed to take care of the British market.

Wayagamack is a great and growing mill and the manufacturing and selling organisation are a strong combination calculated to be of considerable service to British buyers.

(To be continued.)

PRESENTATION TO MR. R. GILROY.

MR. ROBERT GILROY, well known in the paper trade, and the esteemed chairman of the Northern Section of the Paper-makers' Association completed twenty-five years service with A. M. Peebles and Son, Ltd., on September 2 last, and to celebrate the occasion a small dinner was held on the evening of Wednesday, the 13th ult., when the chairman of the company, Mr. George J. Maddick, took the opportunity to present to Mr. Gilroy (on behalf of the Board) a handsome gold watch suitably inscribed, together with a letter from the Board testifying in gratifying terms their appreciation of the work he had done, and the esteem in which he was held.

THE STATIONERS' COMPANY.

LIVERY LUNCHEON.

THE second luncheon promoted by the Livery of the Stationers' Company was held at the Stationers' Hall on the 20th ult., and may be said to have been well attended by members of the company and their guests. Mr. R. A. Austin Leigh presided. Following the luncheon, which was provided by Messrs. Ring and Brymer, the menu card being printed by disabled men now being trained at St. Bride Foundation School, the usual loyal toasts were submitted and honoured. In proposing the toast of "The Master," the Chairman expressed the hope that Mr. E. Unwin would have a successful year of office.

The Master suitably replied, and in doing so gave expression to the hope that everyone would do his best to increase the membership of the Livery.

Sir Frederick Macmillan was then called upon to deliver an address on "The Struggle for Life and the Art of Living," a subject which he briefly considered from the point of view of competition. Sir Frederick's address was listened to most attentively, and as a sample of wit and wisdom was highly appreciated.

Sir Frederick Macmillan having been cordially thanked for his address, the proceedings closed with a vote of thanks to the Court for the loan of the magnificent hall, proposed by Mr. J. L. Greaves and seconded by Sir William Waterlow, Bart.

MR. GEORGE J. MADDICK presided, on the 14th inst., at the meeting of A. M. Peebles & Son, Ltd., and, in moving the adoption of the report and accounts, with its recommendation of a dividend and bonus amounting to 10 per cent. on the ordinary shares, said that the result of the year's trading had not been achieved by profiteering. The company had worked upon as small a margin of profit as any firm had ever done. The paper trade had been suffering from the stigma of being profiteers, and, therefore, he had been delighted to note in *The Times* of yesterday a paragraph stating that the Board of Trade, after carefully considering the reasons advanced for the appointment of a committee to investigate charges of profiteering in printing paper, had decided that the evidence adduced did not justify an inquiry. A question which had been exercising the mind of the board was that of obtaining additional capital to carry on their ever-growing business. Commercial houses were now offering from 8 per cent. to 10 per cent., but the directors could not possibly see how a commercial business, if it were to be carried on upon ordinary lines, could pay 8 per cent. or 10 per cent. to their preference shareholders, or for the loan of money. If trade and commerce got back to normal conditions they could not see that it was possible to pay a standing charge of, say, 9 per cent. for money. He invited suggestions from the shareholders on the subject. The report and accounts were adopted.

EXCEPTIONAL OPPORTUNITY.

ONE MACHINE PAPER MILL,
with about fifteen acres of land,
comfortable residence, several cottages (all freehold).

TO BE DISPOSED OF AS A GOING CONCERN.

Ample water power and sound connection.

The owner has good reasons for disposing of mill.

Principals only please write to Box No. 1001, THE PAPER MAKER Offices, 47, Cannon Street, London, E.C.4. NOV. 1001

PRESENTATION TO MR. W. LEONARD TOD.

GIFT OF AN OIL PORTRAIT BY PAPER-MAKERS OF SCOTTISH DISTRICT.

ALARGELY attended meeting of Scottish paper-makers was held at the Caledonian Station Hotel, Edinburgh, on the 6th ult., to mark the presentation of a three-quarter length portrait in oils which was presented to Mr. W. Leonard Tod, President of the Paper-Makers' Association of Great Britain and Ireland, on behalf of the paper-makers of the Scottish District. The gift was made in recognition of the valuable services he had for many years rendered to the Trade. The subscription list was over-subscribed—tangible proof of the appreciation displayed by the donors—and the balance after defraying the cost

the portrait was handed to Mr. W. Leonard Tod, to be applied by him in obtaining a memento of the interesting occasion.

The chair was occupied by Mr. John Lister, who said that they had met to do honour to the bearer of an honoured name. The war, said he, made heavy demands on the nation, and, though the coming of peace did not appear to lighten their burdens, they could not forget the troublesome times through which they had passed, and the many problems that came upon them for solution. Some of those problems were personal, but many of them affected the whole trade, and called for united action. They had first the restriction of raw material imports, then the interference with the supplies of coal, metals and chemicals, and lastly the threat of free imports, while other conditions also were hampering their trade most seriously. These troubles called for a leader, and he knew they were all proud to be represented by their friend from Eskside. (Applause.) They were all aware that

Mr. Tod had very arduous duties to perform, but he was doubtful if all of them realised the very great amount of work which he undertook on their behalf. Perhaps he was better able than most of them to appreciate what he had done for the trade, and he was delighted when he found such readiness to give expression to their sense of appreciation and gratitude. He did not know that Mr. Tod made any claim to apostolic succession, but he had had some of the experiences which the Apostle Paul recorded of himself. Like Paul he was "in journeyings often"—night trains as well as day trains; "in perils of robbers"—wood pulp merchants, etc.; "in peril of the heathen"—the Bosch; "in peril of the City"—no hotel; "in peril in the sea"—submarines; "in weariness and painfulness." (Laughter and applause.) One peril which Paul suffered from had been spared to their friend. He referred

to "perils amongst false brethren," and if he had escaped that he (the speaker) was afraid he had come under the woe pronounced on another certain class—"Woe to you when all men speak well of you." Mr. Tod, as he had said, bore an honoured name, and had added lustre to it by his life of transparent honesty, and unassuming willingness to serve. (Hear, hear.) He knew he would not thank him to use terms of flattery, but he would excuse him saying that they all held him in the highest esteem and counted him one of their stalwarts, as straight and true in his manhood as in his bodily presence. (Applause.) They were very pleased indeed to have Mrs. Tod with them, and they

appreciated the share that she must have had in the burden of her husband's public life, as without her help and encouragement he could not have been ready for the many calls made upon him. He hoped the picture which was to be an expression of their appreciation would be a pleasure and gratification to her, and he also hoped that many years would pass before the graving tool of Time had made serious changes in the kindly face depicted on the canvas. All of them wished long life and continued happiness to Mr. and Mrs. Tod and their family. (Applause.)

Mr. Bruce, in making the presentation, said he would like to remind Mr. Tod of a very pertinent remark he made at one of their meetings some time ago. They had just persuaded him to take on a rather troublesome piece of work on top of other business he was doing for them at the time, and he said, "I have never met any body of men to equal Scotch paper-makers in their love of getting other people to do their work for

them." (Laughter.) Only his modesty prevented him adding that they were past masters in the much-neglected art of finding the very best men to do their work for them and generally getting that better work done gratis. (Renewed laughter.) He would like to give them some up-to-date examples of their expert skill in this line. Last week when it was decided to hold this important function he wrote to their Chairman telling him that he was quite unused to speaking in public, and asking him, as a personal favour, to make the presentation and necessary speech. In reply came a kind letter saying that he would do anything he wished, but asking him to consider if it was not his duty as Chairman of the Committee in charge to make the presentation, and also to say a few words. He also added that he, in his introductory speech, would go over most of the ground. Any Scotch paper-



MR. W. L. TOD

maker worthy of the name would have jumped at this generous offer, which meant that Mr. Lister would do most of the work. They had heard the eloquent speech he had just delivered, so that he was left with little to do and the halo to wear. (Laughter.) On behalf of the Committee he would like to thank Mr. Whiting (the artist) for the admirable way in which he had executed their commission. Presently, when they saw the portrait unveiled, they would see that they had once again made a notable hit and got the right man to do the work for them. To Mr. Nisbet, who had acted as hon. secretary and treasurer to the fund, he would tender the thanks of his Committee with his personal thanks added for the most efficient way in which he had done the business and made arrangements for them. He often thought that he passed on business which, as chairman, he ought to have done himself. He had not the slightest compunction on piling practically all on to his competent shoulders, with the result of better work done. (Laughter.) When the Committee first met to discuss their remit they did not for one moment consider the possibility of presenting Mr. Tod with a gift that could in any way represent the intrinsic value of the invaluable services he had rendered to the paper trade; so, in drawing up the circular asking for subscriptions, they purposely fixed on a moderate sum, which they suggested as the maximum per paper machine that the mills might subscribe. The response was magnificent. Cheques poured in from all over Scotland and the North of England. Almost all subscribed. Not even the fingers of one hand were required to tell off the contemptible defaulters' "Roll of Conscientious Objectors." After providing the picture his Committee was left with a very handsome balance of money on hand. This balance was the cause of some embarrassment to what they probably would quite unjustly describe as the work-shy Chairman. His Committee met half an hour ago and had made a simply priceless appointment.

A little later they would ask Mr. Nisbet to write out a cheque for that balance in favour of that master craftsman who in the past had done so much conscientious, substantial, honest work for them, and Mr. Tod had relieved them when he undertook to spend it on some subsidiary souvenir suitable to mark the occasion. With this tale of good work well done, their Committee hoped that they would allow them to rest on their oars. In making the presentation they asked Mr. Tod to accept it as a token of their high appreciation of all that he had done for the paper-makers of Scotland and the affiliated mills in the North of England, and as a mark of their warm esteem for him as a man and friend. (Loud applause.) He hoped that Mr. and Mrs. Tod would be spared for many happy years, and that they would often look up with pleasure on their friend Leonard as he was depicted on the beautiful canvas which he now presented to him in the name of all the subscribers. (Applause.)

Mr. Tod thanked the subscribers for the very great honour they had done him—a honour far greater than anything he had done had deserved. As Mr. Lister had said work on behalf of the paper trade generally during the war had taken up a good deal of time and involved a lot of anxious consideration, but it had been most interesting work. The portrait would always be a valued heirloom in his family. Mr. Tod mentioned that, with the balance of the sum subscribed, he proposed to obtain something with it that would form a family heirloom.

On the frame of the portrait was the following inscription:

PRESENTED TO
W. LEONARD TOD, ESQUIRE,
PRESIDENT OF THE PAPER-MAKERS' ASSOCIATION OF
GREAT BRITAIN AND IRELAND,

BY
THE PAPER MAKERS IN THE SCOTTISH DISTRICT
IN RECOGNITION OF MANY YEARS' VALUABLE SERVICES.
1920.

ROYCE LIMITED.

— TRAFFORD PARK —
MANCHESTER.

SPECIALISE IN

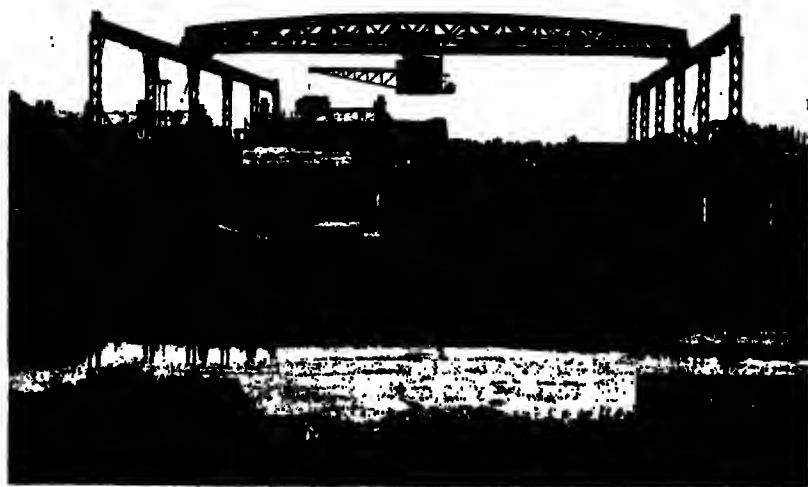
ELECTRICAL CRANES

AND

TRANSPORTERS

FOR

PAPER-MAKERS.



TELEGRAMS: "SWITCH, MANCHESTER."
PHONES: 690, 691 & 692, TRAFFORD PARK

PLEASE SEND US YOUR ENQUIRIES.

THE TECHNICAL SECTION OF THE PAPER-MAKERS' ASSOCIATION.

FIRST CONFERENCE.

IMPORTANT PAPERS AND DISCUSSIONS.



On the 8th ult., the first conference of the above Association was held in the Milton Hall, Deansgate, Manchester, under the presidency of Mr. Arthur Baker (chairman of the Section), who was supported by the President, Mr. W. Leonard Tud, J.P., the Secretary, Mr. A. W. Foster, B.A., and other gentlemen.

Among those present were:—

Mr. W. Adamson (Charles Walmsley & Co., Ltd.), Mr. J. Edlington Aitken (Inveresk Paper Mills, Ltd.), Mr. W. Edlington Aitken (Peter Dixon & Sons, Ltd.), Mr. J. R. Alexander (North Wales Paper Mill Co., Ltd.), Mr. W. Allen (East Lancashire Paper Mill Co., Ltd.), Mr. J. Melrose Arnot, Mr. W. Bacon (Sindell and Bacon), Mr. A. Baker (Empire Paper Mill, Ltd.), Mr. C. D. Baldwin (James Baldwin & Sons, Ltd.), Mr. A. Bone, (J. Dickinson & Co., Ltd.), Mr. N. Bolton (Sun Paper Mill Co., Ltd.), Mr. T. Bolton (Sun Paper Mill Co., Ltd.), Mr. A. L. Boyle, (Smith, Stone & Knight, Ltd.), Mr. D. Brown (Thos. Owen and Co., Ltd.), Mr. L. N. Burt, M.I.M.E. (W. W. Beaumont), Mr. G. J. Caithness (Chas. Marsden & Sons, Ltd.), Mr. J. Cartman (Wall Paper Manufacturers, Ltd.), Mr. D. Clegg (Sun Paper Mill Co., Ltd.), Mr. S. W. Clayton (Ramsbottom Paper Mill Co., Ltd.), Mr. P. C. Collins, Mr. C. Crankshaw (Team Valley Paper Mill Co., Ltd.), Mr. T. H. Cumane (A. M. Peebles & Son, Ltd.), Mr. A. Dinwiddie (Darwen Paper Mill Co., Ltd.), Mr. A. Dawe (H.M. Stationery Office), Mr. R. P. Forsyth (Smith, Stone and Knight, Ltd.), Mr. G. H. Gemmell, F.I.C. (Gemmell & Thin), Mr. P. H. Greenhalgh (Wall Paper Manufacturers, Ltd.), Mr. C. Gregory (Cooke & Nuttall, Ltd.), Mr. T. Hadfield (Consulting Chemist), Mr. C. Hall (Ramsbottom Paper Mill Co., Ltd.), Mr. Arthur Hamer (Ramsbottom Paper Mill Co., Ltd.), Mr. Clifford Hamer (Ramsbottom Paper Mill Co., Ltd.), Mr. J. Hargreaves (Wall Paper Manufacturers, Ltd.), Mr. J. T. Hargreaves (Brimble & Son, Ltd.), Mr. H. W. Hart (Wall Paper Manufacturers, Ltd.), Mr. J. Haworth (Rough Bridge Paper Co., Ltd.), Mr. F. Heckford (John Dickinson & Co., Ltd.), Mr. J. H. Hill (Brittains, Ltd.), Mr. A. Holt (J. R. Crompton Bros., Ltd.), Mr. H. Holt (G. Kempster & Sons), Mr. G. W. R. Holroyd (Blackburn Technical College), Mr. W. Hoyle (Smith, Stone and Knight, Ltd.), Mr. T. F. Jackson (Smith, Stone and Knight, Ltd.), Mr. J. Elliott Jepson (Star Paper Mill Co., Ltd.), Mr. R. Jennison (John Craig & Co., Ltd.), Mr. H. Kay (Price Bros & Co., Quebec), Mr. W. Kirkman (East Lancashire Paper Mill Co., Ltd.), Mr. A. E. Leicester (Engineer), Mr. A. McIvor (Wall Paper Manufacturers, Ltd.), Mr. D. T. McIvor (Empire Paper Mill, Ltd.), Mr. S. A. McIvor (Wall Paper Manufacturers, Ltd.), Dr. J. L. A. MacDonald (Tullie, Russell & Co., Ltd.), Mr. H. R. Makin (Golden Valley Paper Mill, Ltd.), Mr. A. B. Mallinson (Engineer), Mr. C. Masey (F. Newby & Co., Ltd.), Mr. B. L. Morgan (Thomas & Green, Ltd.), Mr. P. Mottishead (Grove Mill Paper Co., Ltd.), Mr. J. H. Mowat (Peter Dixon & Sons, Ltd.), Mr. J. Nuttall (Hyde Paper Co.), Mr. T. D. Nuttall (Bentley and Jackson, Ltd.), Mr. W. E. Nuttall (Cooke & Nuttall), Mr. J. Paramor (Watford Engineering Works, Ltd.), Mr. J. Parkinson (Star Paper Mill Co., Ltd.), Mr. T. Trevor Potts (R. Fletcher and Son, Ltd.), Mr. J. Renwick (Ramsbottom Paper Mill Co., Ltd.), Mr. M. Rothwell (R. Fletcher & Son, Ltd.), Mr. S. Riley (John Wild & Sons), Mr. J. Seddon (East Lancashire Paper Mill, Co., Ltd.), Mr. C. Skelton (Ramsbottom Paper Mill Co., Ltd.), Col. C. D. Sheldon (A. E. Reed & Co., Ltd.), Mr. R. Smith (Jacobsen, Welch & Co., Ltd.), Mr. T. H. Shingles (J. Dickinson and Co., Ltd.), Mr. F. Snape (Chas. Marsden & Sons, Ltd.), Mr. C. Snelling (Empire Paper Mills, Ltd.), Mr. J. Strachan (Donside Paper Co., Ltd.), Mr. D. H. Thompson (Chas. Marsden & Sons, Ltd.), Mr. A. K. Tod (Wm. Tod, Junr. & Co., Ltd.), Mr. W. L. Todd (Wm. Tod, Junr. & Co., Ltd.), Mr. H. M. Tootell (Chas. Marsden & Sons, Ltd.), Mr. G. B. Walsh (Wall Paper Manufacturers, Ltd.), Mr. R. Walsh (Wall Paper Manufacturers, Ltd.), Mr. W. C. Whittaker (Engineer), Mr. J. Wolstenholme (Charles Walmsley & Co., Ltd.).

MR. BAKER'S ADDRESS.

The Chairman, addressing those present, said:—
“Gentlemen, it is my duty and pleasure to welcome you all to the first conference of the Technical Section of the Paper-makers' Association of Great Britain and Ireland. It is a noteworthy occasion in the history of the paper trade of this country, and I am sure we are all delighted to see Mr. Tud here to-day, giving support to the movement in his capacity as President of the Association. I hope and believe this day's gathering will be the forerunner of regular proceedings, which cannot fail to exert a stimulating and beneficial influence within the industry. Before I call upon Mr. Foster to report progress, I would like to say that the Executive have taken one step which I feel sure will earn your approval. We invited Mr. C. F. Cross to become the first honorary member of the Section, which invitation he has been pleased to accept. (Hear, hear.) Paper manufacturers of this country are indebted to Mr. Cross to an extent which many but dimly realise. He has done far more to promote research and the technical investigation of paper-making problems than any single individual in this or any other country. His work on cellulose is a classic. His text-book on paper manufacture has a world-wide reputation. His advice and assistance have always been fully given to the young worker. The Royal Society has recognised the value and merit of his researches, and I am certain you will all agree that it is but fitting that we, in our smaller way, should honour him.” (Hear, hear and applause.) Mr. Baker then went on to submit the following paper:—

THE NEED AND SCOPE FOR TECHNICAL WORKERS IN THE INDUSTRY.

The technology of paper manufacture first received the serious attention of the Association when, in 1890, a small Committee was appointed to investigate the reason why the examinations held by the City and Guilds of London Institute led to such unsatisfactory results.

The Committee recommended that in view of the geographical distribution of the mills and the varied nature of their products, the Association should not attempt to organise any system of education or training themselves, but endeavour to render the then existing organisations more efficient. The examination difficulty was met by a suggestion that the questions set should be of a more practical nature than had been the case.

It was left to Mr. Cross to lay bare the real root cause. In the autumn of that year he read a short paper before the Scottish Section of the Society of Chemical Industry, pointing out that the trade as a whole was biased in favour of empiricism as against science.

Paper-making, in common with many other industries, had up to a certain stage for the most part been developed without the aid of the technical man, and it is not difficult to understand why that attitude of mind prevailed. Paper-makers, like most other British manufacturers, were very jealous trade rivals. The individual employer feared the extension of any movement which he considered might enable others to grasp what he considered as trade secrets. It was therefore rather to be expected that strong prejudice would be shown against the scientific worker, and in particular against the chemist, whose trained mind rapidly assimilated technology, and was readily able to give the rhyme and reason of many processes which had taken years of practical trial and experience to develop.

Even at the commencement of the twentieth century ours was, comparatively speaking, a closed industry. A rapid change was soon to take place. Marked progress in the development

of the paper machine on the engineering side, coupled with the advent of younger men who had profited by better opportunities of general and specialised education than had fallen to the lot of their predecessors, began to break-down that trade jealousy which has always been a fatal bar to rapid industrial progress.

The stress of circumstances brought about by the war, which fell with peculiar incidence upon the paper industry of this country, taught everyone the value of co-operation, and made it clear that in the future progress will be more and more dependent upon the application of science to industry. The reception accorded to the proposal to form this section at the general meeting of the Paper-makers' Association in February last was a revelation to one acquainted with the attitude of ten or fifteen years ago. The step taken, though somewhat belated, was a movement forward along evolutionary lines which will finally destroy the old aversion to the employment of the scientific worker.

You may take it that the Association as a whole now recognises it must take a leading part in fostering the technical development of the industry, and will welcome any steps taken by this section to secure that research and inventive genius are brought to bear upon present processes and the problems awaiting attention.

Someone has said that "modern industrial progress consists in utilising with ever-increasing economy and accuracy natural forces and materials by more and more scientific methods of operation and management, and in furnishing productions of better quality at lower cost." These remarks are particularly apt in relation to our own business of paper manufacture.

It is urgently necessary that the industry as a whole should be brought thoroughly up-to-date, and that everyone should co-operate to the fullest possible extent for the common welfare. As a country we must produce paper as cheap, if not cheaper than other countries, else in the long run we cannot retain the trade.

Both employer and employee must have fair play. On the one hand there must be enterprise, modern machinery, scientific management, research and frank co-operation between paper-maker, engineer and chemist. On the other hand adequate wages, reasonable hours of labour under healthy conditions, with sufficient leisure time whilst full scope must be freely given for the application of scientific methods of using machinery and labour for maximum output.

As never before, industry demands men of ability, character, courage and resource. Every day operations are becoming more complex in character, and therefore more technical in nature. The time is not far distant when the technical workers will need to reach a high standard of excellence, and their remuneration will require to be such as will attract and retain the right type of man.

Mere academic training is of no use. Those who come straight into the mill from the college or university possess more knowledge than wisdom, and should realise that a scientist whose vision is limited by what can be classified and arranged under scientific headings is incomparably narrower in all that matters than many a man of business who never read a scientific work in his life. It should never be forgotten that whilst a knowledge of science is most desirable in a leader, especially in an industry like paper manufacture, still more valuable is a habit of clear and accurate reasoning.

Problems which confront the technical worker are often rendered more difficult by lack of support or want of sympathy on the part of others. This may be most discouraging, especially to the inexperienced worker who has not learnt to make allowance for the human factor. In this connection three causes may operate: First, lack of technical training or knowledge on the part of the employer, leading to indifference or even hostility towards the worker who may be associated with any such movement as the one we are carrying forward to day. Secondly hostility of practical managers and foremen to those who have had the privilege of technical training and endeavour to apply their knowledge. Thirdly, lack of sound elementary or general education among the craft workers which causes them to be averse to any change from long accustomed routine.

The first is a rapidly passing phase. It is astonishing that in the past employers have failed to appreciate the enormous commercial value of research. The second may be a very real and unpleasant difficulty, but a knowledge of human nature, combined with a sense of humour, will go a long way in allaying such feelings.

Signs are not wanting that it is becoming more generally realised that the practical and technical worker are compli-

mentary to each other, and indeed that the former cannot reach maximum efficiency without the aid of the latter.

The almost universal antipathy between engineer and practical paper-maker in the mills of this country is often due to the fact that they are unable to appreciate each other's point of view.

With regard to the lack of general education among the workers, time alone will bring a change, provided they exert themselves to take advantage of such additional educational facilities as may be supplied.

To my mind paper manufacture is a most fascinating business, even for the daily routine worker. In addition to the technique of paper-making, it embraces the application of constructional mechanical and power engineering, chemistry, electricity, the principles of bleaching and dyeing, and, last but not least, the science of executive administration or management.

There is a distinct field in the industry for a type of man I would describe as the "ideal manager" or technical leader. He will require to be a man of broad liberal education, rather than of specialised experience in any one line. Thoroughly well grounded in fundamental principles. Sympathetic towards labour, able to grasp, fully appreciate and co-ordinate the work of his practical foremen, engineer and chemist to the highest commercial advantage, fully alive to the possibilities of pure research, and capable of indicating the lines along which applied research can profitably take place.

For the daily routine technical worker the range is a very wide one. When one considers that paper manufacture is a basic industry, and that the annual increase in the consumption of paper in pre-war days was approximately 7 per cent. a figure which will be greatly exceeded in the future, and further, that in 1913 we already imported 580,000 tons of paper and boards--it is evident there is plenty of scope for the future.

For the applied research worker who deals with problems having a definite commercial end in view there is unlimited scope, whilst for the pure research worker there is a field which demands the highest mental attainments, leading as it does to exploration in the realm of colloid chemistry, a difficult brand of science, the pursuit of which is destined to throw an illuminating light on paper making processes.

This section was brought into being at the psychological moment. It was not possible previously because the trade was not ripe for it. Given proper support and direction it can be of incalculable value to the Association and the industry generally. It may, by encouraging the pure research worker, who deals with fundamental problems, the applied research worker, who deals with the more clearly defined problems of everyday experience, and by providing a common meeting ground for the exchange of ideas between the technical and practical men who are in daily contact with the details of paper manufacture, cause conclusions to be drawn from the accumulated experience of the trade which may prove invaluable for the future.

At the moment we are in the trough of a trade depression, but once the world economic conditions become better adjusted, and master and man reasonably compose their differences, I believe we shall enter upon a period of development in the paper trade in this country which will dwarf any achievements of the past. See to it you put your full weight in the direction of progress. Do not look at the industry from a selfish point of view--as to how much you can take out of it, but rather as to how much, as technical men, you can put into it. The best is none too good. The reward, if not entirely material, will be worthy of the effort.

I sincerely trust and believe that this section will act as a great stimulus for the technical development of our industry.

SECRETARY'S REPORT OF PROGRESS.

The Secretary, Mr. A. W. Fuster, B.A., said the Technical Section was inaugurated at the Midland Hotel, Manchester, on March 5, 1920, and the work done since that day by their Provisional and Executive Committee had necessarily been spade work. There had been no great attempt to increase the membership of the Technical Section as yet, but its present membership was 167, which was already larger than the membership of the Canadian Sister Section, which had been in existence some five years. The Executive Committee had been doing their best, during the past six months, to endeavour to stimulate the members in the way of technical classes in paper-making sections. He might say that great activity

had taken place in Aberdeen, Bury, Dartford, and Grimsby areas, and he thought they might say their Technical Section was succeeding in reviving paper-making classes where they had used to exist, and getting them started where they did not exist before. (Hear, hear.) Another important branch in connection with the College of Technology at Manchester was the paper-making section, but they were not progressing so very satisfactorily as the Committee hoped, owing to circumstances over which they had no control. The City of London Guilds Institute, he was pleased to report, was doing everything possible on behalf of paper-making classes, and an excellent syllabus had been drawn up for the several grade examinations. The Paper-makers' Association was also interested in the provision of suitable headquarters for the paper-making industry, and steps had already been taken in the way of providing a lecture hall and new offices where meetings could be held, etc., which would be a credit to the paper-making industry. At the same time the committee was doing its best to provide a storehouse of paper-making literature. In this connection Mr. Lewis Evans had already come forward with the gift of a very excellent paper-making library, which would form an important nucleus, and their committee hoped that this example would be followed by other paper-makers. (Hear, hear.) Various other matters were under discussion by the executive. Everything would be done, not only to facilitate the holding of new conferences on the lines of that present one, but efforts would be made to get in touch with others who through various causes were not able to attend these conferences.

In conclusion, he wished in his own name and on behalf of the Committee to thank the Trade Press for their valuable help in recording from time to time their proceedings. He would not particularise any one journal. He expressed his grateful thanks to all for placing their resources so generously in behalf of the new Technical Section. (Hear, hear.)

Mr. W. Leonard Tud, J.P. (President of the Association), said it was very interesting to hear of the work of the committee of this Technical Section. They had done very good work indeed, and the hearty thanks of the Society were due to them for their work. They had done a lot of really hard work—they had gone into it with great industry, and put their backs into it. It was a most interesting meeting, and he was glad that the officials of the committee had been supported so well. He hoped the next conference would be even bigger, and a better one. He had been to a good many paper-makers' meetings and knew some of the old faces present, but most of the faces he saw before him were new to him. He was glad they had tapped a new source. (Hear, hear and laughter.) He saw a number of younger men before him and he sincerely hoped they would all take a keen interest in the work of the trade. They wanted the people to work together and he united employers and employed—not only for their own interest but for the general good of the trade. (Hear, hear.) He hoped the young men would remember that, for they who were going down the hill looked forward to the younger men to take their places and take up the reins which the old ones wanted to give up. He wished to propose a hearty vote of thanks to the committee and at the same time to congratulate them upon the success of their work. (Applause.)

Mr. Baker, on behalf of the committee, said he wished to emphasise the fact that the committee could not do everything. It was up to the members to show enthusiasm, to put energy into the movement and follow the example of the Aberdeen Section, who had shown what could be done to benefit the paper-making trade.

At this stage the Chairman said it would be necessary to have an extra session that day on account of the length of the papers to be read. He suggested that a further meeting be held from 7 to 9 o'clock. On being put to the meeting, the proposition was agreed to.

TECHNICAL EDUCATION IN PAPER-MAKING.

Major J. Edington Aitken next submitted the following:—

Technical education is for the purpose of enabling those employed in an industry to acquire knowledge of the theory, principles and fundamental methods involved in the various stages of the manufacturing process in which they are directly interested.

The man whose training has been obtained in the works, without having acquired any knowledge of the broader principles upon which the industry is built, is generally satisfied with empirical methods, and often fails to appreciate any possible value in variations of procedure. He becomes imbedded with the idea that there is only one way of conducting his part of the process—namely, that by which it has always been done by his predecessors and himself. It is difficult for him to comprehend that other methods based upon defined principles may yield a better result at less cost, and with greater efficiency.

The technical expert who, in the course of his training or by experience, has acquired a certain amount of business knowledge and the manager or director whose business training has been augmented by technical knowledge are each in a position to appreciate and discuss the aims and objects of technical suggestions of possible improvements, not only from the standpoint of their effect upon the manufacturing process, but also the bearing which they will have upon the output and returns, commercial success and manufacturing economies will receive due share of consideration. Conversely, the paper-maker without technical training, and the technologist without business knowledge very seldom appreciate each other, with the result that technical advancement and scientific control are much retarded.

Paper-making occupies a somewhat anomalous position in British manufactures. Many employees can trace their ancestry back for generations: methods of conducting various operations have been handed down from father to son. In consequence of this conservatism it is difficult to induce workmen, and frequently managers, to believe that more economical applications can be effected.

Technical education must inevitably bring its influence to bear upon the industry if we are to make progress. The Paper-Makers' Association of Great Britain and Ireland has shown appreciation of its importance in the formation of the technical section, under whose auspices we now meet.

The second Clause of our Constitution states as one of the objects:—"To promote scientific and technical education of those who enter the Industry."

On level ground one mill will not benefit more than another, but those employers who do all they can to ensure that their employees shall have opportunities of studying the technology of the process will undoubtedly derive the maximum of good results. Qualities will be improved, economies will be safeguarded, less time will be spent in endeavouring to make adjustments—because, instead of guessing the probable cause of anything getting out of harmony, reasoning and deduction will become effective; and, greatest of all, the workman will take a more intelligent interest in performing his duties.

It is acknowledged by all, that if we are to maintain our position in the world's industry we must improve our methods. The old "rule of thumb" must inevitably disappear and be replaced by systematic, scientific and technological developments, which can only be attained by diligent study of the theories and fundamental principles of, and their applications to, the process.

Technical education is the key-note and the sooner paper-makers do everything possible to have certain employees trained to a good understanding of the principles and theory upon which each contributory department of the mill is based, the sooner will they be able to gain supremacy in qualities, yields and financial returns.

Paper-makers are not philanthropists, and do not make paper simply for the satisfaction of users. A profit must be obtained. I dare not suggest what percentage increase would arise through improved technical education, because to my certain knowledge on one occasion paper-makers did not look with favour on prospective profits. The story has been told before, but may be repeated in condensed form: A number of years ago it was found that a certain waste product could be utilised. Experiments were conducted on a small working scale. Plans for erection of commercial plant were drawn and costs calculated. The expert employed to carry out the investigation declared

that a large profit could be obtained. The paper-makers, however, with typical caution, did not share the same confident outlook. Therefore the waste material is still a waste in the majority of mills.

It is strange, if we do not care to admit the paradox, that at the same meeting at which the utilisation of waste products was under discussion Mr. C. F. Cross made the following statement: "Paper-mills are not run to make paper but to make money."

The scientific and technical education of paper-makers will be the means of ensuring that better papers will be made; the proportion of so-called waste products, or more correctly by-products, will be diminished, and, incidentally, paper-makers will make more money.

For specific purposes it may not be desirable to increase technical knowledge, but let us hope that these are the exceptions which will prove the rule.

The following once appeared in the trade Press referring to a particular grade of paper:—"No workman at the . . . Mills is allowed to understand more than one stage of the process of manufacture. The paper remains a mechanical mystery."

It is a comparatively simple matter to acquire scientific and technical knowledge, but when one comes to apply such to the manufacturing process, handicaps become very severe and numerous difficulties block the way. Fortunately, the technologist, by perseverance, clears one obstacle after another, and afterwards shapes a defined course for further progress.

The purely practical man is often a good paper-maker, but under the strains and stresses of modern industry, it is advantageous that he should possess a knowledge of technological principles. If he does not desire to gain such information there is no sound reason why he should be the means of blocking progress by constantly reiterating the old fallacy that theory and practice do not agree. If at any time we find difficulty in reconciling theory and practice, the discrepancy is entirely due to our inability to devise means to bring them into harmonious concord.

There is a very limited amount of truth in the statement that practice can get along without theory, but it is only movement in a circle, and not progression. Practice without theory can never reach the true goal. As theory is the science of practice, they are inseparable. The Royal Agricultural Society has acknowledged this fact in the motto "Science with practice."

Up till the middle of the nineteenth century paper-making was an unscientific industry, conducted on empirically established motives bluntly designated "Rule of Thumb."

We do not desire to affirm that good papers were not made while paper-making was included among the arts. Many old papers are really excellent productions, and bear evidence of marvellous ingenuity, practice and skill. I may here mention that the late Mr. Alexander Cowan, of Valleyfield Mills (grandfather of the present generation), on being shown for the first time a sheet of paper made by machine, remarked "It is a wonderful imitation."

Paper-making has now ceased to be an art, and has become a science. This does not mean that it has assumed a higher status, but rather that it has changed from an industry of individual skill to one of systematised knowledge arrived at by progressive observation and experiment.

By technical education we endeavour to apply science to the manufacturing processes, seeking to interpret and explain every detail, so that the best results may be obtained.

Many manufacturers have the idea when the word science is used in connection with paper-making that chemistry is the one and only object of reference. This is by no means correct. Chemistry, as one of the sciences (and not the least important), controls quantities and qualities of all materials used and produced. Physics, with its inexorable laws, demands strict obedience and close attention in every stage of the process. The mathematical accuracy of engineering in all its branches bears truthful record of power developed and used, in addition to all questions pertaining to conveyance, transference and economy of energy. The work of the engineer is as truly scientific as that of the chemist.

The practical sciences are contributory to each other, and perform complementary duties. Conjointly, the application of these is called technology. Various details require careful scientific study before we can appreciate and fully understand the processes involved in paper manufacture, and when this is accomplished, we shall find that paper can be produced with the minimum of treatment and losses and the maximum of yield and quality.

Technical education does not mean that there is only one way of attaining the best results. The principles are well defined, but the applications may be effected in various ways according to requirements or desire, thus giving limitless scope for individuality and research.

I would respectfully suggest that all prospective foremen and managers should prosecute a course of technical instruction in paper manufacture. At the present time it would appear that appointments are frequently made from among the workmen according to no well-defined system of selection; and it does not always follow that the best men get promotion. If it was ascertained by examination, or other suitable method, that a particular employee possessed a sound knowledge of the technological principles of the process of manufacture, then undoubtedly that man would have definite superiority in qualifications over those who do their work in a routine or mechanical manner, merely as individual links in the chain.

The generally recognised evidence of technical training is the possession of certificates granted by a Technical College or by The City and Guilds of London Institute, whose annual examinations are held wherever affiliated classes are conducted. The syllabus is considered by many of us to be somewhat limited in its scope. The importance of the correlated sciences might be advantageously extended to include physics, applied mathematics, mechanical and electrical engineering, in so far as they have relation to the process of paper manufacture. The object of technical training is not to make paper-makers into chemists or engineers, but to give sufficient knowledge of these sciences which will enable them to more fully understand the various stages of the process, according to the degree in which they are controlled by, or based upon, scientific principles.

Many young men, after they have been three or four years in the mill, show a desire to know something more about paper-making than can be gained in the department in which they are employed. It is, however, extremely difficult for them to attend courses of lectures on paper manufacture, especially if these are held on the evening of one of the five full working-days. Owing to the shift system of eight hours, they can usually arrange attendance two weeks out of three, but this means that the student loses one-third of the instruction each year. I believe I am correct in saying that the majority of such students do not tell the foreman or manager that they desire to or are attending technical classes.

Some time ago, during the course of a conversation with a managing director, I mentioned the fact that one of his men had attended technical classes for two years, the manager remarked: "He is a nice lad, but I did not know he was attending the college."

Let us consider what this meant to the young man. It took him two years to get over the work which should have been done in one session, as he could not attend during the week he was on night shift; and in this he is only one of many. He paid class fees and travelling expenses for two years, when it might have been arranged that attendance during one would have been much better from the educational point of view. As the full curriculum consists of three complete sessions, the shift worker will take six years to get over the course, and for this he has to pay double expenses. Information gained in this way is intermittent and scrappy, therefore difficult to assimilate; something like the old lady who, after reading a few pages of the dictionary, said it was very interesting, but she could not see the thread of the story. Technical lectures are not or should not be stereotyped, consequently a considerable proportion of the information would be lost to the student.

One way of overcoming this difficulty is, if a sufficient number of students are in the same position, lectures might be duplicated each week at different hours. May we consider the question for one moment from the employers' standpoint? As the employer is bound to share very largely in the benefits which are to be derived by certain of his employees attending technical classes, I have no doubt that, if he was aware of the fact, he would see to it that every facility would be given to enable them to prosecute their studies.

The subject of technical education has been brought before paper-makers during the last thirty years, both in the form of lectures and as communications to the trade press. It was usually advocated chiefly on behalf of sons of employers and managers. It cannot be too much emphasised that they should undergo a thorough and systematic training in the sciences which exert the controlling influences upon the qualities and properties of the finished sheet and the economies of the mill.

While it is of paramount importance that the twentieth-century managers and directors should have technical education

and experience in addition to the business training which must be undergone; it is none the less desirable that a reasonable number of employees and all foremen, general and departmental, should have proportional knowledge, and thus ensure that those who control the commercial destinies of the mill shall have the support of employees who can appreciate and put into intelligent effect those scientific applications which shall raise the standard of qualities, increase the output, and diminish waste.

The simple study of the technology of paper-making will not make a student into a paper-maker unless he can gain the necessary mill experience, thus becoming practically acquainted with the applications of the theory and fundamental principles. The possession of theoretical knowledge without complete practical experience does not justify anyone claiming that he has anything more than a superficial acquaintance with the technology of the subject. Theory and practice are inseparable and any knowledge of one without the other is very apt to make one dictatorial and dogmatic. The ability to show by example any instructions given will always be of the greatest value. It is not only desirable, but it is also essential, that the student of technology of the process should be able to demonstrate the results of his training in any department of the mill to which he may be appointed. Criticism of methods and processes may be very useful, but the full benefit can only be established by practical demonstration of the principles on which the criticism is based. It is always advantageous both to employer and employee when he is in a position to give practical effect to his instructions.

The technically trained man will be able to reveal many wasteful methods at present existing on account of deficiency of technical knowledge and scientifically organised control, even though they had never given rise to suspicions of extravagance or inefficiency.

The technical section, by fostering the claims of scientific education, is bringing before the leaders of our industry the only true means by which improvements and economies can be effected.

Under the sub-title, "Germany Trying to Find Her Way Back" there appeared in *The World's Paper Trade Review* of August 6 a few paragraphs quoted from *The Evening Trades' Organiser*. As the subject dealt with had a very direct bearing upon our subject, I quote two sentences:—

"It is nothing short of marvellous that wallpapers have actually decreased in price since 1918. This reduction was only rendered possible by standardisation and scientific management, concentration upon every conceivable technical and mechanical device to facilitate production and super-organisation."

We have here a practical testimonial to the value of technical education and strict attention to scientific detail.

One of our cherished sources of pride, both national and individual, is that we have a praiseworthy history. Records show that our forefathers had the prosperity of future generations always in mind. Their progress was however circumscribed by the narrow limits of the technical knowledge at their disposal. In this country we live under vastly different conditions: education (elementary and technical) has opened up to us a limitless field of action, and we are bound to extend our energies far beyond any dream of the paper-makers of past years.

It is no prophecy to say that those paper-makers who do not take advantage of technical training and applied knowledge, but continue to carry on the old empirical methods, will most assuredly be unable to compete with the scientifically controlled and technically organised mills.

I feel I cannot be too emphatic in impressing upon you the paramount importance of having your manufacturing processes founded on strict scientific principles, as by so doing you will be in a position to manufacture the best qualities of your own respective grades, and thus be able to enter into healthy competition, instead of, as is sometimes reported at present, that one mill is doing its best to cut in under circumstances which may not be conducive either to maintenance or improvement of qualities.

In conclusion, may I be permitted to quote from the last paragraph of the report of the City and Guilds of London Institute?

"It is generally recognised that, in order to meet the difficult times that lie ahead, everything possible must be done to increase the economic efficiency of the country, and for this purpose to gain the willing co-operation of all classes of workers. But it is still not sufficiently recognised how important a part the technical school can play in this direction, by arousing in the student

a real interest in his trade. He is brought into touch with perhaps only a small part of it in his daily work, but one of the chief functions of the technical school is to give him a knowledge of the more general principles of science underlying or connected with it. . . the hope may therefore again be expressed that manufacturers and employers will give to our technical colleges and schools in still greater measure the cordial support which they so well deserve. Apart from any immediate results they may bring by way of increased skill or knowledge, they can give to the young artisan the wider outlook which will interest him more in his work. . . . There are signs of increased interest in education generally, it is earnestly to be hoped that there will be a fuller recognition of the great importance of technical education."

In the course of a discussion which followed, Mr. Parker Smith said he fully supported the suggestion of holding evening classes, and in his district they had already arranged for such classes.

Mr. Bacon said they would all welcome any effort to improve the relations between the chemist, the mechanic, the engineer and the manager. All had very important functions in their several departments. Anything that could be done to co-ordinate the respective duties for the general benefit ought to be done. He thoroughly supported the suggestions thrown out in Mr. Aitkin's paper in the way of providing technical education in paper-making.

Captain Nuttall said with regard to providing technical education he would suggest that the Committee might help the cause greatly if they could give managers and directors a lead in making some arrangements to get over the difficulty of the three-shift system. It would be of enormous assistance if the Committee could deliberate upon the question and give them the advantage of its opinion.

Mr. Eckford said they started classes in their district when there was a boom in favour of technical education, and the mills soon noticed the benefits derived from the classes.

Mr. Strachan said with regard to evening classes, there were many difficulties in the way of forming one scheme. A good deal depended upon the particular district and whether there were technical schools or classes within reasonable distance, and whether students could attend regularly or only intermittently, which made all the difference as regarded success. He would suggest that the Committee obtain the opinions of several members—they could not expect the Committee to make enquiry of every member; let them obtain some practical suggestions towards forming a concrete scheme and he felt confident the paper-makers would come forward and support it in a practical way. (Hear, hear.)

Mr. Tod said that if anyone tried to get up some scheme on behalf of technical education in a particular district, no doubt the £ s. d. difficulty would face them to begin with. But if some practical scheme or suggestion could be drawn up and they would apply to the Paper-makers' Association for help or support, he (Mr. Tod) would certainly use his best endeavours to see that some financial support was given. (Applause.) He felt certain that the Paper-makers' Association would be willing to do what they could to help in such an important matter. He had enjoyed Mr. Aitkin's paper very much indeed. There was a great deal to think about; the many points required careful consideration, and he hoped a full report of the conference papers would be given in the Trade Press. (Hear, hear.)

Mr. T. D. Nuttall said he had had considerable experience in technical education and he had watched the careers of students attending technical classes. His conviction was that quite a large percentage of students who took advantage of these classes were handicapped at the outset by their deficiency in general knowledge derived from elementary schools. The technical class subjects were so highly technical that they were quite beyond the ordinary student's previous school training. He thought there should be

some standard whereby students could be tested and scholarships offered by the Paper-makers' Association, so that selected candidates could be helped in their technical studies.

Mr. Alexander said he had been pleased to hear the suggestions thrown out how help could be given to students who were far away from technical institutes or classes. He had great sympathy for mills which were isolated from technical schools and were thus handicapped in acquiring the necessary technical knowledge which could be so easily obtained in Manchester, Edinburgh, Aberdeen, London, and elsewhere.

Mr. Mowatt (Messrs. P. Dixon & Son) said that wherever there was a chemist in a mill, no matter how isolated was its situation, they had the nucleus for obtaining a very good technical knowledge. Very good work was being done in the way of technical education in Grimsby. They had done much spade work there. The paper-making class at one Technical College was attended by printers and stationers, but not by paper-makers. Whatever was the cause of paper-makers not taking advantage of the classes, he had never been able to solve. This year they started classes in Grimsby, and now they were being very well attended by paper-makers. As regarded the three-shift difficulty in connection with the classes, they adopted the plan of the students exchanging the list subjects and helping each other in that way. He was glad to say that the employers were taking a great interest in this technical work.

Mr. Aitkin, in closing the discussion, after referring to the various points touched upon by the speakers, said the students' fees were not high, but travelling expenses, of course, were higher than in pre-war days, but if students worked hard and successfully and got diplomas, surely they got due reward for what they had paid as expenses. As regarded the general knowledge acquired by the students before attending technical classes, after fifteen years' experience in teaching paper manufacturing, he never found that his class (many attended from the paper mills) was lacking in the necessary general education to follow his teaching. Whether it was that in Scotland they received better education in the day schools, he did not know (laughter), but he must say the lads coming from the mill came out all right. (Hear, hear.) With regard to shift work, it was certainly a trouble to get satisfactorily solved. He personally objected to Saturday afternoon classes, for he did not think it was fair to any student who had worked in the mill all the week to be expected to spend his Saturday in studies. He would suggest that an employer should do his best to see how suitable lads could be exempted, in order to attend day or evening classes. For example, where the back-shift or ten o'clock shift was adopted, suitable arrangement could be made, for the employer was bound to benefit in the end. (Applause.)

SOME NOTES ON PAPER TESTING.

The following "Notes on Paper Testing," by Mr. J. Strachan were then read:

The chief objects of these notes is to point out the source of certain discrepancies in paper testing, and to make some suggestions towards the eliminating of "personal equation" errors arising from methods and instruments.

1. ESTIMATION OF FIBROUS CONSTITUENTS OF PAPER UNDER THE MICROSCOPE.

(a) A common error arises in the microscopical situation of lignified fibres such as mechanical wood when the fibres are stained with Hertzberg's modification of Schultze's solution (chlor. zinc iodine). This is most marked with beginners and with those who use the microscope infrequently and consists in over-estimation of the lignified fibres. This is caused by the fact that most microscopists use the "mental impression" method of estimation, and that the eye is much more sensitive to yellow than blue.

The remedy for this is the use of a blue colour screen used in the usual fashion. Either glass or a liquid filter may be used. A suitable liquid filter is a layer 1 in. thick of a one-half per cent. ammoniacal copper sulphate solution. This will be found invaluable in teaching beginners to form true mental impressions.

(b) Quantitative errors also arise in using an objective of too high a power. It is suggested that the most reasonable power to use is that which gives sufficient definition to identify (with practice) similar fibres, consistent with the largest possible field of view. The average eye will find that a $\frac{1}{2}$ in. objective (16 m.m.) and an X10 eyepiece most useful for general work. This does not preclude changing to lower and higher powers with the revolving nosepiece for confirmation of particular observations.

(c) It should be noted that in using the 16 m.m. objective the draw-tube should be set to give a field of view exactly two millimetres in diameter. Micrometric observations as to the average length of beaten fibres can then be made during the examination, and after some practice the method of mental impressions is applicable in this department.

(d) In making accurate micrometric observations of the diameter of fibres and central canals it should be noted that chlor.-zinc-iodine should not be used as a stain, as it distorts the structure. An aqueous solution of an aniline dye is most suitable for this work and also for observation of fine detail under the highest powers.

(e) When it is desired to keep a mount of paper fibres stained with any solution, particularly those containing iodine, for a few days without evaporation or fading, the old-fashioned accessory known as a "live box" will be found most useful in the mill laboratory.

2. MEASURING BURSTING STRAIN OR STRENGTH.

The universal use of the bursting-strength type of instrument has given rise to discussions as to the relative merits of various types of machines. In this connection, sufficient attention is not always paid in comparative tests to methods of testing and the consequent occurrence of "personal equation" discrepancies.

(a) In testing the bursting-strength, at least 10 tests should be taken at regular intervals across the sheet, as in many papers there are zones of relative weakness and strength parallel to the machine direction, the origin of which is quite evident.

(b) The paper must be clamped as tightly as possible. In the type of machine where the paper is clamped by a screw, the strength may be anything from 5 to 15 per cent. too high through insufficient clamping.

(c) Sindall and others have already pointed out that erroneous results are obtained by bursting two or more sheets at once "to get an average." Sindall states the average resulting from this erroneous procedure is generally higher than with a single sheet. This may hold good with one particular type of machine, but from numerous tests I find that with two types of machine this average is generally lower.

(d) Although regarded as erroneous for standard testing purposes, this method of testing 1, 2, 3, 4, etc., sheets is worth further investigation, in view of the fact that the exact nature of the components of the bursting strength are not exactly known. By plotting out the strength and substance graph in such tests I get four types of graphs.

- No. 1. Straight line (strength proportional to substance).
- No. 2. Rising curve (strength increasing with substance).
- No. 3. Falling curve (strength decreasing with substance).
- No. 4. Falling curve which rises after reaching a minimum.

No. 4. I find to be the commonest type of curve.

The question arises as to whether the lowest point of such a curve is not a truer measurement of the ultimate bursting-strength than the highest. Certain connections between types of curves and types of paper have been observed.

(e) Arising from this question comes Mr. Sindall's recent attempt to correlate average bursting-strength with average tensile-strength. As one might expect, he fails to find any regular relationship between the two in a variety of papers. If paper were an absolutely homogeneous substance it should be quite easy to establish a relationship, but the heterogeneous structure of paper forbids this. The stretch and the tear of paper are certainly two factors which influence the bursting-strength as usually carried out. These components would be reduced to uniformity of behaviour—at least, I suggest, in a machine designed to test the shearing-strength of a definite thickness of paper obtained by firmly clamping the necessary number of sheets to give, say, 1 inch measured thickness under

a definite measured pressure. In such a case, any departure from the theoretical shearing-stress (calculated from the tensile strength) would be found to arise from peculiarities in the structure of the paper and thus indicate faults or special qualities.

3. MEASURING THE THICKNESS OF PAPER.

(a) The principal discrepancy in measuring the bulk or thickness of paper arises from two facts: (1) paper not being a homogeneous substance is compressible and (2) the pressure applied by the micrometer may vary and does vary in practice with personal equation and type of instrument. Details are submitted showing tests made with 7 different micrometers on a variety of papers. The differences vary from nothing at all on a homogeneous compressed paper (friction-glazed) to over 20 per cent. on a machine-finished paper, viz., a board measuring 12 to 15.5 thousandths of an inch according to the instrument used and the methods of its use.

Ninety per cent. of the complaints in the trade concerning "caliper" arise from this fact. When paper is ordered to bulk either the micrometer used should be specified or the thickness of a definite number of sheets under a definite pressure should be stated. It should be noted in this connection that there is no instrument for this purpose on the market but is not absolutely necessary.

(b) Minor discrepancies in the measurement of the thickness may arise from the condition of the paper. A sheet of very dry paper is appreciably thinner than the same sheet containing its full content of natural moisture. Details are given showing that on a variety of papers tested an error of 5 per cent. on the average may arise from this source.

In opening the discussion, the Chairman said he felt sure they would all agree that Mr. Strachan's paper was a most valuable and stimulating one. He had evidently given much thought to its preparation and he had no doubt the methods he suggested for testing and examining papers, fibres, etc., would be carefully considered and studied. His remarks about testing the bursting strength of paper by the methods mentioned, including the American tests, etc., were very interesting and must be especially so to those who were more nearly concerned in their practical application.

Mr. Aitken said he should specially like to thank Mr. Strachan for the interesting notes dealing with paper-testing. He had known cases where, when the sheet was made, at certain mills the chemist had never been asked to look at the finished sheet. It was a great mistake to adopt that practice, because they wanted to know all about the finished paper as well as about the raw materials. Regarding testing, the bursting strength of paper, they had often been told that the personal factor played a very important part. That was quite necessary, for if they were careful their tests came out very uniform. There was one little fault, however, in the paper-testing machines. It was in the construction of the machine, for it ought to have a handle attached to the barrel. He resorted to a very simple contrivance by taking the pencil in his hand and turning the handle against the pencil, which he held in the palm of his hand, and thus introduced the personal factor, and in that way they could overcome the difficulty. The burst was undoubtedly a burst and a tear. Usually, he likened the bursts coming out roughly like the letter H, rather than a C.

Mr. Parker Smith said he noted the differences in the tests made by papermakers and stationers, and while they agreed upon many subjects, he should like to get them to agree upon a test by the user. He would also like to suggest that whereas Germany and America had their own testing instruments, the late war had shown that they had equally good scientific instruments. Would it not be well if they got some scientific British-made instruments that they could adopt throughout the country for use in the paper mills. He would like to see one standard instrument being used for doing the different tests, of British-made.

Dr. Macdonald said they all agreed that paper-testing was one of the most important duties of the scientific staff of a paper mill. He considered that paper-testing should not fall to the lot of the chemist. It was a physicist's job and not a chemist's job, of course. There were one or two points he would like to comment upon. Firstly, the need—the emphatic need—of co-operation between the buyer, the stationer, and the papermaker. Every papermaker got specifications from the buyer for the class of paper he was required to produce. That was more or less a scientific matter. The bursting and other strength required to be tested, but it was very seldom they made mention of the type of instrument to be used in the testing. He thor-

oughly agreed with the previous speaker that it was advisable to try and get some standard form of instrument. For the last six months he had been engaged in equipping his own establishment with instruments, and he had applied first to British manufacturers. One firm promised to supply in a month's time, but after waiting for two months, he wrote them again and they sent word they could not get supplies. He then wrote to America and they promised fairly early delivery. He also wrote to Germany, and they promised delivery provided the money was sent very quickly. (Laughter.) He would rather get a British machine if he could obtain it. But unfortunately the truth was he could not get one. That state of things should be looked into, and he thought their technical section of the Association might do a great deal to effect a uniform method for testing British-made paper.

He might say that in his enquiries to get a machine from America, he had heard of a new one, viz., a Modilemeger machine and also a Widney machine. The first-named seemed to be quite comprehensive in the tests, not only in the bursting strength, but in the intensive strength of paper; it also carried out the surface test and some arrangement whereby the sheets could be measured. It was also claimed for the machine that it could be used for testing other things—machine felts and wire testing, their strength and tearing strength.

Mr. Dawe said he had made several experiments in testing paper, and a great deal had to do with the quality of the paper and the way one manipulated the testing machines. There was certainly room for making special enquiries about these several testing machines.

Mr. Hart (Darwen) said undoubtedly the personal factor entered largely into the correct testing of paper. Personally, he found that the Leung machine, made by Schopper, of Leipzig, was a most scientifically-constructed one for testing paper.

Mr. Baker said Kempster's of Bury had been able to do their repairs most satisfactorily. They were, he believed, specially adapted for undertaking work of that kind.

Mr. Strachan, in replying, said that with regard to scientific instruments, it was a matter of surprise and regret that there were so few English makers in this country. There were Kempster's, engineers, of Bury, and one or two firms in London—Miller and Andrews, who made good instruments. He had omitted to say as regarded the turning of the handle of the bursting machine. He thought the speakers had exaggerated about the use of the machine, for anyone with any engineering knowledge of scientific instruments would never turn the handle, regardless of time or care. He considered that two revolutions in a second gave a fairly good result.

Before the morning session broke up, the Chairman proposed a vote of thanks to Mr. C. R. Seddon and fellow directors of the East Lancashire Paper Co., Radcliffe, for their kind invitation to visit their works, the following morning. The vote was heartily carried.

AFTERNOON SESSION.

The company reassembled at 2.45, when Mr. G. H. Gedmell, F.I.C., read the following paper:

THE TESTING OF WOOD PULPS.

My first contribution on the Testing of Wood Pulp was made before the Society of the Chemical Industry in 1890. Since then, in the Technical Press and in other ways, I have repeatedly expressed my views as new methods have been suggested.

The very large number of claims for excess moisture, or more correctly, short weight, on deliveries of wood pulp, during the past two years, renders it unnecessary for me to apologise for again introducing a discussion on this well-worn subject. My experience tells me that there is dissatisfaction on both sides: on that of the makers of the wood pulp, who affirm that the claims are excessive and unjust, though they take the greatest possible care to see that the deliveries are sent out of correct weight. Also on the part of the buyers, because of the annoyance and trouble of making these claims and tests, and the feeling that the seller is deliberately sending deliveries forward short weight. There is also the fact that not infrequently, after one or two tests by their own chemists, where short weight is found, the officially appointed analyst certifies correct weight, or over-weight, of pulp.

A movement is on foot, on behalf of the sellers, at the present time, to amend the Wood Pulp Contract Note, and it is with a view of arriving at a more certain and accurate method of testing, that I am making this contribution to the first conference of the

Technical Section of the Paper Makers' Association of Great Britain and Ireland.

I want in the first place to make it clear that I hold no brief for the paper maker, and that most of the views stated herein have been already expressed to the pulp makers, or their representatives.

During the past twelve months, I have made tests of wood pulp in presence of five representatives from the Continent, one at the port of delivery, the others at paper mills. In one instance, a duplicate sample was sent to the makers of the pulp. In the others, at my request, the representative accompanied me to my laboratory and saw the samples weighed and dried. In none of these cases was any exception taken at the time, or subsequently, to the methods adopted.

One point which has been particularly emphasised is, that any error in the test is primarily due to the selection of the bales, and my experience tells me that this is the weak point in the present method of testing wood pulp. The "Official" wedge method of sampling leaves little to be desired in the way of improvement, if due care is exercised. We have records of a large number of duplicate tests made from the same bale by ourselves, and mill chemists, and it is rare that the difference exceeds 0.1 per cent. I have occasionally had complaints from the mill that my test does not show so much excess moisture as the mill test, but when I know that these tests are often made by the store-keeper, or time-keeper, or office boy, I naturally take no notice of such complaints.

As I have frequently pointed out to representatives of the pulp makers, all causes of difference would be eliminated if bales were sent out uniform in weight and moisture, in accordance with the contract note, which they admittedly are not. Where you have a parcel containing thick and thin bales, moist and dry bales, heavy and light bales, the final result of the test obviously depends on the kind of bales selected, and on this matter the official analyst has not an entirely free hand. Theoretically, he is entitled to choose any bale he desires, but in practice he cannot always do so. On arrival at the paper mill he may find a stack of from 3,000 to 5,000 bales. This stack has taken a week or more to build up. Obviously then, he cannot have the stack taken down and rebuilt, so that he may select bales from all parts of the cargo, but must select them from on or near the top. He will then get an undue proportion of bales from one part of the cargo, which may be wetter or drier, heavier or lighter than the average. If there is a variation in the size of bales, he can by inspection approximate the number of thick and thin bales, and sample bales in proportion.

As indicative of variations normally met with, the following are taken from our books of a cargo of pulp delivered to three mills:

MILL.....	A.	B.	C.
Number of bales sampled	40	30	16
Of which <i>Light</i> bales ...	39	17	7
" <i>Heavy</i> " ...	1	13	9
Weight per bale invoiced (lbs.) ...	280 lbs.	280 lbs.	280 lbs.
Average Gross weight per bale ...	275.7 lbs.	277.6 lbs.	270.2 lbs.
Excess Moisture ...	4.31%	3.49%	4.88%
Air-dry weight per bale	263.8 lbs.	267.9 lbs.	265.5 lbs.

INDIVIDUAL TESTS OF 10 BALES.
(5 sheets per bale dried.)

Bale No.	Weight of Bale. (lbs.)	% Dry Pulp.	% Moisture.	% Air-dry Pulp.	% Excess Moisture.	Weight of air-dry fibre per bale.
1	310	88.45%	11.55%	98.28%	1.72%	313.5 lbs.
2	318	87.45%	12.55%	97.16%	2.84%	308.9 "
3	311	79.31%	20.69%	88.12%	11.88%	274 "
4	313	85.32%	14.68%	94.80%	5.20%	296.7 "
5	310	85.72%	14.28%	95.24%	4.76%	295.2 "
6	310	85.70%	14.30%	95.32%	4.68%	301.2 "
7	325	74.18%	25.82%	82.42%	17.58%	267.8 "
8	328	88.84%	11.16%	98.71%	1.29%	323.7 "
9	311	85.05%	14.95%	94.50%	5.50%	293.9 "
10	312	81.15%	18.85%	90.17%	9.83%	281.3 "

TEST FROM THE SAME CARGO, AT TWO MILLS, IN PRESENCE OF REPRESENTATIVE FROM SCANDINAVIA.

MILL.....	A.	B.
Number of bales sampled ...	25	18
Of which <i>Light</i> bales ...	22	8
" <i>Heavy</i> " ...	3	10
Weight per bale invoiced ...	288 lbs.	288 lbs.
Average gross weight per bale ...	277.1 lbs.	281 lbs.
Excess moisture ...	7.91%	4.8%
Air-dry weight per bale ...	255.2 lbs.	267.5 lbs.

TESTS OF A CARGO OF PULP, SAMPLED IN PRESENCE OF REPRESENTATIVE FROM SCANDINAVIA.

SAMPLED AT.....	DOCKS.	DOCKS.	PAPER MILL.
Number of bales sampled	40	40	36
Of which <i>Light</i> bales ...	13	14	4
" <i>Heavy</i> " ...	27	26	32
Weight per bale invoiced	373.3 lbs.	373.3 lbs.	373.3 lbs.
Average gross weight per bale	374.9 lbs.	374.6 lbs.	378.75 lbs.
Excess moisture ...	2.99%	3.23%	2.13%
Air-dry weight per bale	363.7 lbs.	362.5 lbs.	370.7 lbs.

It is frequently noted that a light or thin bale is also a moist bale, though this is not always so. A particular brand of pulp, of high grade, which is usually delivered correct weight, was during a period of some months delivered short weight, and numerous claims were made. At one test, I particularly noticed a variation in the size of the bales, and selected a thick and a thin bale for individual tests, with the following results:— (5 sheets per bale dried).

	Light Bale (Thin).	Heavy Bale (Thick).
Weight per bale invoiced	448 lbs.	448 lbs.
Gross weight of bale ...	444 lbs.	466 lbs.
Percentage Air-dry pulp ...	94.98%	102.48%
Percentage Excess moisture	5.02%	2.48% (fibre)
Air-dry weight per bale ...	421.7 lbs.	477.5 lbs.
Weight, light or heavy ...	26.8 lbs.	29.5 lbs.
	Light.	Heavy.

I should like to remark here that certain brands of pulp which we test are invariably delivered of correct weight. The result of this is, that duplicate tests at different mills give results very close to each other. *Example:—*

MILL.....	A.	B.	C.	D.
Number of bales sampled	25	25	25	25
Of which <i>Light</i> bales ...	2	3	0	1
" <i>Heavy</i> " ...	23	22	25	24
Average gross weight per bale ...	459.9 lb.	462.0 lb.	466.7 lb.	464.3 lb.
Excess moisture ...	1.18%	1.6%	2.22%	1.23%
Air-dry weight per bale	454.47 lb	454.65 lb	456.3 lb.	458.6 lb.

MILL.....	A.	B.
Number of bales sampled ...	20	20
Of which <i>Light</i> bales ...	20	10
" <i>Heavy</i> " ...	0	10
Average weight per bale ...	252.45 lbs.	278.5 lbs.
Percentage air-dry pulp ...	49.00%	44.38%
Air-dry pulp per bale ...	123.7 lbs.	123.6 lbs.

PARCEL OF PULP SAMPLED IN PRESENCE OF SELLERS' AGENT:

	Light Bales (under 364 lbs.)	Heavy Bales (over 364 lbs.)
Number of bales sampled	50	74
Average weight per bale	352.68 lbs.	378.08 lbs.
Percentage air-dry pulp	60.10%	55.70%
Air-dry pulp per bale	211.9 lbs.	210.6 lbs.

I could multiply the instances where, because of the irregularity of the weights of the bales and the moisture contents, the result of two or more tests vary, whereas, in other cases, because of uniformity in weight and moisture, duplicate tests agree. When we know that in certain brands of pulp, claims are rarely made, whereas in others there is always a claim for short weight, the inference is obvious, and the makers have no just cause of complaint. It must also, I think, be agreed, that if anyone stands to lose on the transaction it is the paper maker. As the result of an official test, the pulp maker is paid for the air-dry fibre he delivers, but if no test or claim be made, he may be paid in part for water instead of fibre. I know of mills in Scotland who regularly receive pulp on which claims are made by others, yet who never themselves test their pulp. These cases are a clear gain to the pulp maker. Again, where there is excess moisture, the buyer has to pay freight for water instead of fibre, and I understand that up to the present he has been unable to obtain delivery of the short weight. Over a contract of 1,000 tons, where there may be a short weight of 20 to 30 tons, if he cannot get delivery to make up for this shortage, he is at a decided loss, on a rising market. At one of the tests previously referred to, the representative present on behalf of the sellers, was a chemical engineer, who was responsible for the packing of the pulp. When asked what was the reason why certain bales contained more moisture than others, he stated that the sheets in the moist bales were thicker than in the drier bales, and when run off the machine, they were not dried so effectively. To determine whether this was so, we took 20 sheets from a moist bale and 20 sheets from a dry bale. The results were as follows:—

	Moist Bale.	Dry Bale.
Weight of bale	279 lbs.	276 lbs.
Weight of 20 sheets (moist)	9.588 lbs.	8.255 lbs.
Weight of absolutely dry pulp	7.025 lbs.	7.200 lbs.
Loss	2.563 lbs.	1.055 lbs.
Percentage of moisture ...	26.75%	12.78%

It will be noted that though the moist sheets were heavier than the dry sheets, they did not contain more fibre. The excess weight was due to water only.

It is the usual practice in Norway and Sweden to invoice, or, at any rate, to infer, that the pulp contains 90 per cent. dry fibre and 10 per cent. of water, or for moist pulps, 45 per cent. dry and 55 per cent. water. On a recent occasion, I made a test of a delivery of pulp and found an excess of water. The short weight was so large that I decided to exercise the option open to the analyst, to take a further sample in order to confirm the result. When the pulp makers received the certificate, they wrote saying they could not understand why there was such a shortage, and that their chemist's test showed that the average air-dry test was 98 per cent., yet they had invoiced the parcel at 100 per cent.

Some Canadian pulps, and, before the war, most German pulps, had each bale legibly stamped and numbered, and also gave the weight and air-dry or bone-dry test per bale. Accompanying the parcel was also sent a specification of the bales and their contents. If the Scandinavian pulp makers would adopt this plan, there would be fewer complaints of incorrect results from the choice of abnormal bales by the official analyst. The average weight and air-dry percentage of the whole parcel being known, the analyst could then take half the bales below and half above the average, or, if needs be, at very little extra labour, sample and test individual bales.

I have thought of various plans for overcoming the difficulty arising from irregularity of the weight and moisture contents of the bales, and the above appears to me to be the most satisfactory solution for the analyst, as well as for the buyers and

sellers, and I put this forward for the careful consideration of those to whom the amendment of the Contract Note is entrusted. In connection with this proposed amendment, I would also suggest that a small committee, consisting of representatives from the British and Scandinavian Wood Pulp Associations, the Paper Makers' Association, and two or three representative official analysts, be appointed to draft the amended Contract Note, and submit to the two Associations.

I would briefly draw your attention to some of the points in the present Contract Note which I consider should be more clearly specified:—

Clause 3.—PACKING AND WEIGHING. "The pulp to be packed in bales of declared uniform weight, or a specification to be given stating the weight and number of each bale. . . ."

Is the analyst justified in rejecting abnormal bales? I believe it is the practice of some analysts to reject all bales 28 lbs. over or under the invoiced weight. I can quite understand, and have frequently rejected heavy bales, because they showed evidence of external wetting; but if a light bale is intact, with wrapper, wires and number, on what grounds should it be rejected?

Clause 3, par. 3.—INTACT BALES. "The samples to be drawn from accurately weighed and intact bales, as nearly as possible in the manner agreed upon by the British and Scandinavian Pulp and Paper Associations."

Some of my paper-making friends have protested because we reject bales which have been wetted or otherwise damaged in transit. My contention is that the analyst should, as far as possible, select bales in the same condition as they left the pulp mill. To obtain an average sample is difficult enough under normal conditions, but is far more difficult where damaged bales are to be included in the test. I would, therefore, suggest that the clause reads: "intact and undamaged bales."

Clause 3, Par. 3 (last part).—"The analyst may, at his discretion, within three days, test a further 2 per cent. of the parcel." This is not sufficient time, and I would suggest that at least five days' time limit be given.

Clause 8.—TIME LIMIT. "All claims must be made in writing within 14 days after the delivery of the consignment at the consumer's mill, wharf, or station in the United Kingdom." Does this mean from the time the pulp arrives at the port of delivery, or begins to arrive at the mill or wharf, or after the whole consignment has been received by the buyer?

These may be looked upon as minor points, but if friction and unpleasantness are to be avoided, no effort should be spared to make the new contract note as complete and specific as possible.

In conclusion, I wish to emphasise the point that if the pulp maker wishes these pulp claims to cease, he has the remedy in his own hands, but that under the conditions existing during the past two years, as evidenced by the above figures, he has no just cause for complaint.

During 1919 we sampled 235 deliveries of wood pulp, representing 29,000 tons; of these 214, or 91 per cent., were short weight, and 21, or 9 per cent., over weight. The short weight amounted to 975 tons. At the prices existing during 1919 this represented credit of at least £30,000 to the buyers. The excess weight on the 21 deliveries was 20 tons. It is quite well understood that these figures do not mean that 91 per cent. of all deliveries are short weight, because as a rule we are only called in when a previous shortage has been found at the mill. I have no doubt that other official analysts could give corresponding figures, and the fact remains undisputed that large deliveries of pulp have been, and are now being, delivered short weight. We all realise, I think, that the pulp maker has had difficult times, and has been working at a disadvantage owing to the high cost of coal and other troubles, but after the evidence of these figures, can he justly complain that he has not been fairly dealt with. It is, perhaps, unnecessary for me to point out that the official analyst takes the utmost precaution to get an accurate result. The scales are examined, and from time to time tested against standard weights. At the laboratory, our system of checking and cross checking all weights and calculations makes it practically impossible to certify incorrect results. It is immaterial to us what the result is, our only duty is to ascertain the truth, and report it, and in doing so we sometimes differ with the paper-maker. On several occasions the buyers have protested because we rejected a large number of damaged and wetted bales, and only consented to sample dry bales. Another buyer insisted on placing before us the result of his own chemist's test, and indicated that if our test did not give the same result it was our duty to return to the mill and draw another sample. A third buyer had the pulp weighed at

the port of delivery by a sworn weigher. He claimed that the gross weight should be taken as the basis for calculating the air-dry fibre after the test for moisture. A long correspondence ensued and the matter was referred to me, and I decided against the paper-maker. It is only by retaining our independence of judgment that we are entrusted with this work, and it is in this spirit that I have contributed these remarks to the 'Paper-makers' Association, but I am well aware that they will be read by a wider audience through the Press, and both parties to this controversy will have the facts before them.

DISCUSSION.

The Chairman said there was a committee sitting at the present time, trying to come to some arrangement with the Wood Pulp Scandinavian Association for the purpose of drawing up contracts in a more suitable form than at present existing.

Mr. Bacon hoped the suggestions thrown out by Mr. Gemmell, in regard to the question of specifications of wood pulp shipments, would be carried out by all shippers. There ought also to be uniform weights, as at the present time the weights varied enormously, which greatly added to the work of the official analysts and others. They were greatly indebted to Mr. Gemmell for his admirable paper, and he felt sure its publication would be highly valued by the paper trade generally.

Mr. Baker considered that it would pay every mill to employ a chemist to test pulp, seeing that news mills claims on pulp averaged £2,000 per month. They should alter the contract clause to read that only normal and intact bales should be taken. As to the question of specifications in the case of chemical pulps, the suggestion thrown out could be adopted, but of course in the case of mechanical pulp that would be an impossibility. As to a re-test, he considered a period of three days was not sufficient. He thought five days would be more desirable. Mr. Gemmell's recommendations would be carefully considered by the Association. (Hear, hear.)

Mr. Moor (Grimsby) referred to the varying weights and moist and dry conditions of pulp parcels, and said they had to consider each condition. Then again, in the case of duplicate samples they found the test of their chemist did not always correspond with the report of the analyst. Then with regard to definitions, What was an abnormal bale? What was an isolated bale? What was a representative sample? Mr. Gemmell said three days was not sufficient for testing. He agreed, for where there was a big parcel they required at least five days. Every mill ought to have scales and weights.

Mr. Gemmell, in reply, said there were a great many debatable points in connection with that subject. The question of intact and damaged bales was a very difficult matter to discuss. If the analyst was in a position to select bales which showed no signs of damage in any way, and he examined an ample proportion, three days might be considered ample time, that is from the time he certified his result. He always reckoned three days from the original time they took the sample. If they took a sample on a Friday it would be Tuesday before they got the report off, so that the three days was exceeded. It was an awkward clause for the analyst; but he (the speaker) seldom returned to the mill to get another sample. If he did, the pulp maker and paper maker wanted to know why. He admitted what Mr. Bacon had described as the heartbreaking trouble of getting bales when there was a specification. It was no doubt difficult. If they got representative bales, they had to turn over a great many, and the analyst had to make a careful report and in one or two days he had got to do it.

Might he make a suggestion with regard to the difficulty of getting bales from all parts of the stack—he did not put it forth as a perfect solution—that at the port of delivery they knew bales came out in four slings and that one out of twenty-five that came out of the ship was laid aside—the stevedore being instructed to stamp with some particular mark with a stencil supplied by the Association, and when arrived at the mill, set aside. There were objections to such a scheme, but he put it forward for discussion. They would at least get four out of every 100 taken from all parts of the cargo, and there would be no difficulty in saying they were not representative of the whole cargo. In conclusion, he maintained that they took such precautions in checking and testing that they could not send in inaccurate results. He said it definitely. (Laughter and hear, hear.)

Mr. Tod said that as the outcome of a committee meeting the following resolution had been drawn up for their acceptance: "This meeting of the Technical Section recommends that the committee now appointed to draw up the new Contract Note

should consult official analysts before the Contract Note is finally agreed upon, in order to get their views regarding the provisions for sampling and testing."

This was seconded and carried unanimously.

STRAINERS FOR PAPER-MAKING MACHINES.

Mr. A. McIvor, M.I.C.E., followed with a paper on Machine Strainers, illustrated with lantern slides.

Of all the accessories of the paper-making machine it will probably be agreed that the strainer is an easy first in the trouble it has given to the paper-maker and his engineer.

If a proof of this assertion be required, one need only refer to the very large number of patents which are recorded in connection with this particular adjunct, a few of which, as a retrospect, I hope you will permit me to mention and explain.

I have been unable to find any indication of the first use of any strainer in paper-making. The ancient prints showing hand paper-makers at work are fairly full of detail as regards the preparation of the stuff and the forming of the sheets, but nowhere, so far as I have been able to examine, is there any sign of a strainer.

I have two particularly good drawings, showing a chain-mould paper-making machine, dated 1812, in elevation and plan; these drawings are of very special interest for themselves, and show in clear detail that at that early date all, or nearly all, of the now existing features of the paper-making machine had been thought out.

Yet although the mixing box for stuff and water are clearly shown, and the mixture is delivered to the breast box and thence to the wire moulds, there is no arrangement for catching the knots.

Here, if one may mention etymology, it may be permitted to question which of the words in common use has the best radical right to describe our particular apparatus:

First—Strainer; this comes from a Latin word (*stringo*) signifying to draw tight, hence to press or squeeze; this I think hardly describes the operation:

Second—Picker, which I think is peculiar to Lancashire, and has no apparent connection with any descriptive root-word, I think it comes to the paper trade from the cotton mills, where a machine of that name is used for cleaning cotton:

Third—Screen, apparently an American importation, which has some claim for consideration, coming as it does from a German root-word (*schranke*), meaning a railing or barrier:

Fourth—and best in my opinion, is Knotter, which describes the desired function, and is more fully descriptive in the German version signifying Knot-Catcher.

When, or by whom, the first strainer was invented I have no information, but without doubt it was of the yet familiar flat jog type, now mostly used as an auxiliary for re-straining the stuff rejected by the main strainers.

It would, of course, be evident to the paper-maker that no kind of woven fabric would be of use for sorting the stuff, as a sheet of paper would immediately be formed on its surface.

About 30 years ago, while I was engineer to a firm in the North of England, then approaching their centenary, I found among the brass in my store a number of brass castings about 18-in. long and 1-in. thick, somewhat like a miniature firebar; these were finished straight on the top edge and sides. On close enquiry I found that they formed the original strainer plates, and had been invented by the then firm of Annandales in conjunction with Mr. Henry Watson, a brass founder of Newcastle-on-Tyne. These bars were placed side by side, with thin discs or washers of brass of the thickness desired to make the required slits, and bolted together to form the bottom of the jog knotter.

At a later date we have the record of a patent having been granted to the same Henry Watson and Joseph Millhoun of Dartford, in May 1862, for forming these bars in a series of sections instead of in one complete bottom. Thus we see that this method survived until a fairly modern date, although prior to 1850 we know that plates had been made of solid cast brass with sawn slits.

But during these early times two inventive minds were collaborating on some revolutionary developments in the North Country whence we got our golf and whisky and many other inventions, some good and others not so good. In 1856, now 64 years ago, George Bertram and William McNiven of Edinburgh obtained Letters Patent for two notable inventions,

being improvements on which they called "the knotting machine."

The first was to make the jog knotted to lift bodily in the vat, to which it was connected all round by a flexible "bag," or as we would now call it "a diaphragm."

The second invention was for the use of a cylindrical sieve disposed so as to revolve horizontally in a vat containing the stuff to be treated. The two end bearings were hollow trunnions, one of which was to be connected with a pump or other exhausting apparatus, the other was to be supplied with steam or air pressure.

These two inventions are clearly the progenitors of most of the modern types.

The latter one, the first of the revolving strainers, was evidently not quite successful and in little more than a year we find the same inventors with a patent for an improved revolving strainer with a set of cylindrical bellows "like those used in smith's shops." This notable invention ran for quite a long time—in 1864 we find another patent by George Bertram and Michael Patterson for the use of an auxiliary flat knotted in conjunction with the revolving strainer, a continual small stream of sedimentary stuff being drawn from the bottom of the strainer vat.

The original bellows were found to be troublesome, and we find various attempts being made to obtain greater reliability. Henry Watson in 1875 proposed to omit the bellows and to substitute one or more metallic cylinders with pistons; and in 1877 James Annandale replaced the bellows by rubber discs.

Both methods were extensively used, with various modification, but all were found not quite satisfactory; the power required was considerable, and the wear was serious. Another fault was that the action on the strainer plates was too much localised, and the slits quickly became wider in the vicinity of each set of discs.

So we find other inventors, the brothers John and Robert Wood, in 1872 bringing out a strainer which had an external pump of large diameter and short stroke to provide the necessary agitation, to distribute which they fitted a cylindrical copper tube inside the strainer, which tube was perforated all over with small holes graduated from 1-32nd inch diameter nearest the pump up to 3-16ths inch diameter at the far end, all with the intention of equalising the action over the straining surface. This, again, was soon found to be wrong, the direct action on the stuff being too much for the machinery to stand, and they soon gave up the copper tube, substituting a large rubber rectangular (or later a triangular) sectioned bag, the pump having nothing else to do than alternately inflate and deflate the sides of the bag. This produced a good and smooth action all over the plates, but eventually it was found difficult to keep water out of the interior of the bag.

In all these revolving strainers much trouble was experienced with the packing of the trunnions; the whole strainer was heavy and costly, being of solid brass. The trunnions wore quickly, the packing got into the stuff, and the stuff ran out of the glands.

The reciprocating mechanism suffered much from wear, aggravated by the inevitable splashing of water and stuff, and the cleansing or repair of the inside parts was a serious business.

Consequently, a return to the more simple form of a flat plate strainer was welcomed, and during the "eighties" that type in various forms came greatly into favour, sometimes with spray-pipes to hasten the removal of the surface deposit, or with a slowly-travelling brush or squeezer for the same purpose. Here, too, the reciprocating mechanism was subject to considerable wear; but the comparative simplicity of this type has been the cause of its survival to the present day, although I think no new ones are being made here now, but in America their own type seems yet to be the standard; characteristically, their vat is made of wood, and their plates and rubber diaphragms are fixed with carpenter's wood screws, so that their expectation of life is not long. However, they have one good feature in that they use a four-pointed cam for jogging the diaphragm; the hammer being made of hard end wood, so avoiding the difficulty of lubrication to a great extent.

Another modification of the flat diaphragm machine came into favour in the early "nineties," the oscillating strainer patented by Mr. John White, in which the flat vat was slowly tilted to and fro, thus washing the deposit from the surface of the plates into one or other of the side channels and thence into the auxiliary.

In 1893 a strainer on apparently quite original lines was patented by Robert Hutchison, then engineer at Thomas and Green's Mill in Bucks, in which the straining surface was of a conical shape, fully immersed in the stuff to be strained, with the outlet at the big end; the top of the truncated cone was level,

and the whole cone was vibrated endways, the open ends of the cone being sealed by rubber diaphragms.

Why this strainer did not come into more general use I cannot tell, but perhaps some information on that point may come out in the discussion which I hope to hear on this present occasion.

Possibly the introduction of the Wandel Strainer in its various modifications may have overshadowed it.

This latter machine had a great vogue and is even yet largely in use. Its early forms showed up the great difficulty with most strainers in keeping water out of the working parts, notwithstanding all the carefully devised protections designed by the makers.

The effect of the jar of the cams on the necessarily lightly constructed drum was found to cause early deterioration.

An ingenious modification of twin Wandels was made by Wainwright, the drums being mounted on a pair of opposed bell-crank levers, thus needing only one cam shaft, but in spite of the elaborate provision of water shields I have found it impossible to keep the cams and shaft safely lubricated. I may mention one unexpected result of gearing both drums together—I noticed the level of stuff in the breast box rising and falling about half-an-inch regularly in step with the revolution of the drums; this I ascribed to some less effective surface in both drums, possibly caused by clogging of the slits, although nothing was easily visible.

Both drums revolved at exactly the same speed, so the defect was remedied by making one spur ring with an extra tooth—"a hunting cog," as the old millwrights used to call it, and the variation of flow disappeared.

As we are now approaching the consideration of the present-day types of machines, it may be in order here to mention that any criticism of such machines is entirely from the paper-making users' point of view, and quite free from any personal favour or objection to any maker. And I need hardly add, that all who may feel inclined to join in any later discussion should approach the subject strictly in the same spirit.

In the later form of the Wandel Strainer, the Watford firm has made another attempt to keep water away from the mechanism by revolving the drum with a ratchet motion derived from a sealed crank. Another machine made at Glossop specialises in a very large drum, up to five feet diameter, thus enabling a single strainer to serve a large paper-making machine. The weight of the drum is, of course, considerable, but is partly balanced by two strong spiral springs. The joggling motion is derived from eccentrics instead of cams, thus providing an easier motion, and the rotation of the drum is by a link chain from a worm reducing gear. Some thought has been given to protection of the working parts from the water and stuff, but from a long experience of similar designs I fear the success cannot be complete. One good feature should be noted, and one which no other maker appears to have adopted, namely, they provide for a short endlong traverse of the spray pipe, thus continually changing the line of water jets into the whole of the slits. In another modification of the Wandel Strainer we have that of Lamort, in which any positive mechanism for revolving the drum is quite omitted—a very desirable thing if successful, as it is claimed to be in this case. The drum is suspended on a flexible band around each mouthpiece; one end of the band is raised a short distance by the small crank about 600 times a minute; thus the drum is carried round a small fraction of its circumference on the upward stroke, and its inertia seems to be sufficient to prevent its return with the band on the down stroke. Thus it would appear that the destructive jar of the cams having been eliminated, the drum can be made lighter, and the makers claim that they can considerably increase the number of slits.

Of the inward flow type of drum strainer, perhaps the earliest modern example was the Reinicke and Jasper, which enjoyed considerable favour for some years, but the packing glands in which the drum works have been blamed for causing "rolls" and knots; and there is a large number of pins and joints to keep in order.

The Dietrich and Seybold strainer has received a large degree of favour among the inward-flow machines; the drum is revolved by direct worm gear; the drum-ends are sealed by the kind of bands used on cylinder-mould machines, and the stuff is induced to pass through the slits by flapping wings underneath the drum. In practical working, this machine is said to be too much "Drawing Office" in design; no proper provision being made for ready dismantling for repair, and too many wheels and levers being driven on to sunk leathers, with, in many cases, dead-eye bearings in between them.

Another machine of about the same date is that of Voith,

who rotates the drum from one end, which is entirely closed, and the strained stuff is delivered at the other end, which is quite open, and sealed, in this case, by two bands in the cylinder-mould fashion: a vibrating flapper is provided on each side of the drum, which in the earlier examples were worked from a rocking shaft fixed on the top of the vat. Evidently, however, it was found that the effort on the flapper was too severe for this construction, and the later machines show that while the flappers are yet hinged from the top of the vat as before, the effort is transmitted through the shell of the vat, a rubber diaphragm being used to seal the joint, as exhibited in a recent machine of this type made by Walmsley. There is quite a lot of engineering work about these machines, and hence they are accordingly costly.

Another machine made by Banning & Seybold—the Lohmann Strainer—has the novel feature of the vat itself performing the work done by the flappers in the previous examples. The vat, which is of plate-metal construction, evidently to reduce the weight, is hung on fixed hinges on one side, while the other side is moved up and down by a crank arrangement. The advantage of dispensing with diaphragms or flappers is doubtless very considerable, but I am ready to believe that the power required to vibrate the vat and its contents takes a great deal of power, and that the wear and upkeep are correspondingly large.

Later makers have been trying to produce something that would eliminate the obvious defects of these inward-flow machines, among which are Bertrams of Leith, whose prominent detail is in mechanism for vibrating the plate, which in this case is directly beneath the drum. This is very ingenious, and appears to provide a sure protection of this most important part, being quite waterproof, and working with all its parts in an oil bath. By means of a movable fulcrum, the stroke of the plate can be varied while running. A possible objection in this machine is that the arms which carry the drum from its bearings may be the means of collecting sops from the already strained stuff.

The latest machine of which the writer has knowledge is that of the Watford firm, in which the drum is carried on levers somewhat like the Waudel type, but instead of a vertical jog, the drum receives a sidelong motion as well as vertical, from a pair of eccentrics, the exact description of the resulting motion being elliptic. This appears to be effective in keeping the slits clear, and is certainly very easy on the gear. The drum lies rather deeply in the stuff, and is revolved by a ratchet motion driven from a reducing gear running in an oil bath, and considerable attention has been given to the protection of working parts from water. Provision is made in this strainer by screwing from the surface as well as from the bottom of the vat.

In closing this brief review of invention extending nearly to three-quarters of a century, the writer is aware of some omissions, but enough has probably been shown to make good the opening statement of this paper regarding the importance of the strainer problem.

It appears impossible yet to say that the perfect strainer has appeared. Many of those here mentioned have given great satisfaction for a while and until repairs became intolerably troublesome, when they would be scrapped and replaced by another new invention, which in its turn would share the same fate.

The old Greek dramatist Sophocles summed up the question of human happiness in saying that "no man should be considered to have been blessed by the Fates until his life was completely finished;" and similarly the present writer, warned by many years of experience, advises a strict reticence regarding the performance of new strainers.

Mr. Baker, in opening the discussion, expressed the hope that the illustrations would be published, as they showed the evolution of machinery from 1812. He (the speaker) had been looking up some books in his library and he had come across several interesting facts. From Hoffman's well-known work it would appear that Leopold Crack, in 1820, was the first inventor of a strainer plate, which was used, and about 1830 Ibbotson invented the Ibbotson screen, and was the first paper-maker to use it.

Mr. Tod said he had followed the paper with extreme interest, and it must have been equally so to those present whose memories went back to forty years and more, and remembered the older strainers which had been shown on the screen. He remembered a good many of the contrivances shown, especially the old machine dating from 1812, which was of the Fourdrinier type. Some thirty years ago he remembered that William Bertram, son of George Bertram, erected a machine at Springfield Mill which was the first attempt to make paper otherwise than in the ordinary hand mould. It was of the Fourdrinier type, and

if Mr. McIvor could find out if this was the machine that was at Springfield, he would be greatly interested.

With regard to the reinforced concrete vats they had introduced at Springfield through the Bertrams, he was pleased to say that so far they were working very satisfactorily after three or four months' working.

Mr. Arnot (late of James Wrigley & Sons, Bury) said the machine referred to by Mr. Tod as having been erected at Springfield Mill was by a local inventor at Lasswade. The moulds travelled on an elliptical railway and they received from the vat their quota of pulp, then travelling round the railway, reverted to the horizontal; the paper was couched on to the felt, and the moulds then returned to their original position.

EVENING SESSION.

The following paper by Mr. W. Adamson was read at the evening session, being illustrated with lantern slides.

THE ECONOMIC UTILISATION OF HEAT AND POWER IN PAPER MILLS.

One of the most important and, to many of us, one of the most interesting problems attached to the manufacture of paper is the economic utilisation of heat and power in the mill.

The time has come when it is very necessary that the source of heat and power, which in this country is coal, should be economised to the greatest possible extent. Until recently coal has been so plentiful and so cheap that the question of its economical use was not very pressing, but in view of the present shortage in supplies, the rising prices, and our ever dwindling national reserves, the question becomes one of the greatest importance.

If by the most modern plant, under scientific control, we can save even a small amount of coal per ton of paper produced, it is obvious that a considerable economy will be shown at the end of the year, and of course a reduced consumption of coal means diminished charges for handling both coal and ashes.

The fuel cost per ton of paper produced is one over which the paper-maker has more control than he has over the other main costs of paper production, such as raw material and labour.

A very short time ago a census was taken of the coal consumptions of the different mills, and at that time the following results were considered as good practice:—

Paper.	Coal Consumption.
News, 25 per cent. Chem., 75 per cent. Mech Wood	18-20 cwt.
Cheap Printings, 50 per cent. Chem., 50 per cent. Mech. Wood, unbleached	26-28 cwt.
Printings, all bleached (Free from Mechanical Wood)	37 cwt.
Esparto Papers, Pure	3.5-4 tons.
" 50 per cent. Esparto, 50 per cent. Chemical Wood	2.5-3 tons.
Writings, 100 per cent. Rag	4.5-5 tons.
" 50 per cent. Rag, 50 per cent. Chemical Wood	2.5 tons.

There are few mills, however, that reach this standard, but there is no doubt that with modern plant, rightly installed, these results could be not only reached, but surpassed.

A more correct way of comparing consumptions would have been on a B.T.U. Unit basis, or from the commercial point of view, on an "L.S.D." basis, as the heat value of coals and the cost of same vary considerably.

Fuel is wasted in most mills by inefficient boiler plants; by uneconomical steam plant; by unnecessary absorption of power in driving the plant; and by dissipation of heat in various parts of the mill.

USE OF HEAT IN THE MILL.

Heat is utilised in the mill for various operations:—

1. As an aid to the chemical disintegration of the fibrous raw material for the extraction of cellulose.
2. For the recovery of the active agents used in this chemical disintegration, e.g., the recovery of soda from the waste liquors in the digestion of grass, etc.
3. For drying the web of paper after formation on the machine.
4. To warm the air for absorbing the moisture evaporated from the paper during the drying.
5. As the source of the mechanical and electrical power by which the paper-making plant is driven (except where water power is used).

6. For various other operations, *eg.*, to accelerate hypochlorite bleaching; to "free" the paper stock, so that it may more readily part with its water on the machine wire, to warm the mill buildings, etc., etc.

The most suitable agent for distributing this heat is steam, principally owing to its large heat-carrying capacity (disintegration heat) at convenient temperatures, and to its property (change of state) of being able to part with the greater portion of this heat (latent heat) at constant temperature. These two properties of steam are of the greatest importance when used for cases 1, 2, 3 and 4.

The heat carrying capacity of steam, or "the total heat" varies very little with the pressure, the values at the higher pressures being only slightly greater than at the lower pressures. The "latent" heat also varies very little with the pressure, but is slightly greater at the lower than at the higher pressures.

STEAM FOR DIGESTIVE PURPOSES.

When steam is used to aid the digestion of rags, grasses, wood and other fibrous materials, temperature, pressure and latent heat are very important factors for successful operation.

In practice the most suitable temperatures and pressure have been fairly well determined for the different raw materials and usually lie within definite limits for each material, boiling agent and desired product.

To obtain these temperatures, steam is used either "directly" or "indirectly" in the digester.

The advantages and disadvantages of both methods are fairly well known, but in either case the steam must supply the necessary heat to bring up the contents of the digester to the required temperature and pressure.

Live steam is generally used for digestive purposes, but for low temperature boiling (*eg.* Rag Boiling) exhaust steam could be more economically used. Even in the case of the higher temperature digestion, low pressure exhaust steam could conveniently, and with great economy, be used as a preliminary, and the final temperature attained by the use of either higher pressure exhaust or live steam. Thus, for example, if the final digestion temperature be 300° Fahr., and the initial temperature of the digester contents be 60° Fahr., then exhaust steam at 10 lbs. gauge pressure would be able to supply almost 75 per cent. of the total heat required for the digestion.

STEAM FOR HEATING THE DRYING CYLINDERS.

To dry paper satisfactorily the steam supplied to the dryers should lie within certain limits of temperature. If the steam is at too high a temperature there is always the great risk of "cockling" and burning the paper; whereas, on the other hand, the temperature must not be too low, or the rate of drying will be considerably retarded. The usual range of temperatures corresponds to absolute pressures of from 15 to 25 lbs. per square inch, but for some classes of paper pressures up to 45 lbs. are used.

Another factor affecting the rate of drying is the presence in the exhaust steam of oil. This is ultimately deposited as a film on the inner surface of the cylinder wall, and will greatly retard the rate of heat flow from the steam to the paper. To compensate for this, higher temperature steam is required than is necessary when exhaust steam free from oil is used.

HEAT AVAILABLE FOR DRYING IN EXHAUST STEAM.

When steam has done useful work either in a steam engine or steam turbine, and has exhausted at a lower pressure, the heat converted into work is only a very small percentage of the total heat in the steam, so that in this exhaust steam there is a large amount of heat that can be used for drying purposes. Suppose, for example, we take 1 lb. dry steam at an absolute pressure of 200 lbs. per square inch (18½ lbs. per square inch gauge pressure). If this is expanded adiabatically—say in an ideal engine—and exhausted from the engine or turbine at an absolute pressure of 25 lbs. per square inch (10 lbs. gauge) the heat units converted into work would be 155 B.Th.U. If this steam be then passed into the drying cylinders of the paper machine, and discharged therefrom as water—say at a temperature of 240° F.—the heat units available for drying will be 834 B.Th.U.

If, however, instead of using exhaust steam, live steam be used reduced to the lower pressure by means of a reducing valve, then passed into the drying cylinders of the machine, and exhausted therefrom as water at the same temperature, the heat units available for drying would be 989 B.Th.U.

A comparison of these figures will show that steam which has done useful work in the engine has almost as much heat available for drying as there is in the live steam.

It is interesting to go further with this by making a comparison of the value of steam used in the following way:—

(1).—1 lb. of dry steam, expended in an ideal engine from an absolute pressure of 200 lbs. per square inch to 25 lbs. per square inch absolute.

Heat Units available for work ... 155 B.Th.U.

This steam is then passed into the drying cylinders and discharged therefrom as water at a temperature of 240° F.

Heat Units available for drying ... 834 B.Th.U.

(2).—1 lb. of dry steam expanded in an ideal engine from an absolute pressure of 200 lbs. per square inch to a condenser pressure of 28 in. vacuum.

Heat Units available for work ... 336 B.Th.U.

(3).—1 lb. of dry steam is reduced by means of a reducing valve from an absolute pressure of 200 lbs. per square inch to 25 lbs. per square inch (absolute pressure) and is then used for heating the drying cylinders.

Heat Units available for drying ... 989 B.Th.U.

From these results it will be readily seen that 1 lb. of steam used under the conditions (1) is equivalent to 1.30 lbs. of steam used under conditions (2) and (3).

Similar results will be obtained with steam at other initial pressures, and also in the case of superheated steam, only more heat is available per lb. of steam both for work and for heating. These results demonstrate the great economy of using exhaust steam for drying in preference to fresh live steam.

SUPERHEATED STEAM AND PAPER DRYING.

Superheated steam has been suggested for drying paper, but there are many objections to its use. For instance, its heat-carrying capacity is very little greater than that of saturated steam, unless the temperature be unreasonably high—*eg.*, saturated steam at 10 lbs. gauge pressure contains a total heat of 1,155 B.Th.U., at a temperature of 240° F., and superheated steam at the same pressure and a temperature of 300° F. (beyond which it is inadvisable to go) contains total heat of 1,184 B.Th.U.—only 29 more than the saturated steam. Again, if superheated steam were passed into the drying cylinders, it would probably cause the overheating of the end of the dryer, and thereby damage the paper; and as soon as it came into contact with the water, its superheat would immediately be lost. Also, if the dryer could be filled with superheated steam, it would be unable to give up any of its heat without a lowering of temperature, and this lowering would take place until the steam became saturated. As previously stated, for successful drying the temperature of the steam within the drying cylinders should remain constant.

Another point against the use of superheated steam, especially in the case of the exhaust steam from reciprocating engines, is that with the usual type of oil separator, it is impossible to remove the bulk of the oil contained in the steam. In the case of steam by-passed from a "bleeder" turbine, however, there is no trouble experienced on this account, as it does not contain any oil, and if it be superheated at all, the degree of superheat should be only enough to ensure dry steam at the furthest point in the heating mains. If live steam, which is already superheated, be reduced in pressure by a reducing valve, it will at a lower pressure be further superheated, and before this is used as a "make-up" for heating the drying cylinders, means should be adopted to reduce its temperature.

STEAM USED FOR GENERATION OF POWER.

The very property of steam, *i.e.*, its large latent heat capacity—which is so useful when steam is used as a drying agent—has nothing like the same value when it is used for power purposes. The value of steam for power purposes depends mainly on the range of pressure and temperature that can be worked and very little on the total heat of the steam. Thus, if steam be used in the most economical engine or turbine there is always a large percentage of heat in the steam passed over to the condenser.

Greater economy in steam consumption can be obtained by adopting high initial steam pressures with further adoption of higher superheat, combined, of course, at the other end of the scale with the most perfect condensing arrangements. It is very common now to install plant with gauge pressures of 200 to 250 lbs. per square inch, superheated to a total temperature of 600° F., and to work this expansively in the case of turbines to a vacuum of 28½ in. to 29 in., with the barometer standing at 30 in.

It is interesting to examine the available energy in heat units that can be obtained in an ideal engine with steam at different initial and condenser pressures. From a heat entropy curve at different pressures and superheat the heat drop

can be readily determined by expanding steam in an engine working on the "Rankin" cycle with adiabatic expansion.

In practice, however, no steam engine or turbine is capable of converting the same amount of heat into work as is shown for the ideal engine.

SUPERHEATED STEAM FOR POWER PURPOSES.

Superheated steam, although of little value for heating and drying, is, however, of considerable value in the generation of power. If the steam supplied to an engine be superheated to only a small extent, so as to ensure its being dry at the engine, then for every 10° F. of added temperature there will be a reduction in steam consumption of not less than 1 per cent. Thus, with 100° F. of superheat at the engine, a reduction in steam consumption of about 10 per cent. can be obtained, as compared with dry steam.

Superheated steam used in the steam turbine also shows a marked decrease in steam consumption over dry steam. For example, 100° F. of superheat reduces the steam consumption by 3.5 per cent., as compared with dry steam.

For reciprocating engines, superheated steam as high in temperature as 500° to 550° F. can be safely used and will show considerable economy and smoother working of the engine; for turbines temperatures as high as 600° F. are now in common use.

The steam supplied to the engines driving the paper machines should only be superheated to a temperature which will ensure dry steam in the exhaust pipe.

In order to avoid excessive wear of the cylinder, piston rings, valve rings and packings, when using superheated steam in the engines, it is very necessary to increase the supply of oil for internal lubrication.

CHOICE OF POWER UNIT.

The paper mill can be driven in many different ways, and by the use of power units of various types.

In the case of existing mills the "layout" of the plant generally determines the method of driving and the most suitable type of unit, but in the case of new mills the plant can be arranged in the most convenient way to suit the class of paper being manufactured, and the method of driving arranged accordingly.

In determining the most suitable type of power unit the first essential is to make a correct estimation of the power and heat requirements of the mill.

If the heating load exceeds the power load then the thermal efficiency of the engines is of little importance, but if, on the other hand, the power load predominates, the thermal efficiency of the power units is of the greatest importance.

The economy of engines, or turbines, in regard to steam consumption per unit of power will always be a most important factor in determining the relative value of different types of engines and turbines, and their application in mill driving.

Apart from the steam consumption, loss through stoppages; cost of maintenance, attendance, repairs and depreciation; and the initial cost have all to be considered in estimating the real commercial economy. Reliability and efficiency are the most important factors, and should not be sacrificed in order to save a little in initial cost of the plant. In fact, reliability should come first of all in any power scheme for paper-mill driving, ranking of more importance than steam economy. The loss of production by unreliable plant would soon counter balance any saving in steam economy or initial cost.

STEAM ENGINE AS POWER UNIT.

The steam engine in one of its many different types has been universally employed as the power unit in steam-driven paper mills.

The choice of type as main power unit was varied greatly, depending in some measure on the space at disposal in which the engine was to be fixed, and also on the speed of rotation.

Where floor space was limited and the height permitted, the vertical type was the only alternative; but when the space was not limited, the horizontal slow speed type was generally preferred, being the more convenient of access; and as it occupied a larger floor area, the engine was more likely to be free from vibration.

The economic use of the steam in the engine depends mainly on the ratio of expansion, the leakage past the pistons, valves and packings, and on the quality of the steam supplied. With regard to the ratio of expansion, it is possible to carry this too far in condensing engines, necessitating the use of very large cylinders; and beyond a certain point while showing an improved result per I.H.P.—this does not show an improved result per B.H.P.

The mechanical efficiency of engines varies according to the type. Slow speed horizontal engines will show an efficiency of only 80 to 85 per cent.; whereas, the quick revolution engines with forced lubrication will show an efficiency up to 92 to 93 per cent. The highest efficiency of any engine is at the full rated load, as the power required to drive the engine remains practically constant at different loads.

STEAM TURBINE AS POWER UNIT.

Within the last few years the steam turbine has become a very serious competitor of the reciprocating steam engine as the main power generating unit for paper mill driving. Two types of turbine readily lend themselves to paper mill service, viz.: (1) The "Extraction" type and (2) the "Mixed Pressure" type. The former, sometimes known as the "pass out" or "bleeder" type, is arranged so that the steam, after passing through one or more stages of the turbine, can be by-passed at suitable pressures into the heating mains for heating purposes in the mill, and so that the excess steam can be passed through the lower stages of the turbine to the condenser, in those cases where the power load is greater than the heating load.

This type of turbine can thus work as a high-pressure machine, if no steam is wanted for heating, or as a back-pressure machine if all the steam necessary for power production is wanted for heating. The amount of heating steam can consequently fluctuate between these limits.

When working as a back-pressure turbine, there is always a small quantity of steam passed through to the condenser so as to keep a slight steam flow and eliminate troubles that arise when working in a vacuum.

The steam by-passed into the heating mains can be readily controlled by a variable valve operated by the governor gear of the turbine. When the heating or power requirements of the mill fluctuate, they are readily and almost instantaneously accommodated by the sensitive governing gear on the turbine. Thus, with constant load, if more steam is required for heating, it is automatically supplied by the governing gear admitting more live steam to the first stage of the turbine, and allowing less steam to pass through to the condenser. On the other hand, if the demand for heating steam is reduced, some of the live steam is automatically cut off, and more steam passes through the lower stages to the condenser. Again, if the demand for heating steam remains constant, but the power load varies, the governor gear automatically controls the steam supply to the turbine and through the lower stages to the condenser.

The steam can be by-passed at a fixed pressure, and this pressure maintained constant irrespective of the steam demand for heating, or the fluctuating power demand. When this pressure has been fixed, the design of the turbine does not very readily permit of its being altered without a sacrifice in steam economy, but if the pressure of the heating steam be fixed at the maximum that will be required in the mill, it can readily be adjusted by means of a throttle valve for the lower pressure requirements.

This is the ideal condition for the supply of heating steam to the mill; and, moreover, this steam being free from oil, can be admirably used for the digesters, drying cylinders, hot air plant, or for any other heating requirements of the mill.

Such an arrangement of "by-passed" steam permits of great economy, as the steam for heating purposes has already given up a portion of its energy in the turbine previous to its entering the heating main. This steam for the same pressure drop does not give out as much energy as is the case of steam used under the same conditions in a reciprocating steam engine, and this is one of the objections urged against the use of the turbine. However, having given up less heat in the form of energy than the steam from a reciprocating engine, it contains more heat available for drying.

A well-designed reciprocating compound engine working down to about atmospheric pressure is a more efficient machine than a turbine working under the same initial and terminal pressures; but between the atmospheric and condenser pressures the turbine is far more economical, as it is able to expand the steam down to an absolute pressure of less than 1 lb. per square inch, while the reciprocating engine working condensing does not expand to much below an absolute pressure of 8 lbs. per square inch.

In order to expand to lower pressures the low-pressure cylinder would have to be inordinately large, and, therefore, costly, while the increased loss from cylinder condensation and radiation would more than counterbalance the gain due to a greater expansion. For example, in most condensing engines the saving over non-condensing conditions does not exceed 25 per cent.

to 30 per cent. under the most favourable conditions of load, and on over-loads the saving by condensing is much smaller.

From this it appears that a combination of an engine and a turbine will give higher economy than either an engine or a turbine working through the whole range of pressure. This leads us to the mixed pressure type of turbine, that can be readily used for paper mill driving.

Mixed Pressure Turbine.—The mixed pressure turbine can be employed in conjunction with reciprocating, non-condensing engines. The engines could be used for driving the machine, the heater shafting, etc., and, being compounded, would absorb the greatest possible amount of power from the steam before it is exhausted into the heating mains. The excess exhaust steam that would result from the use of these engines could then be used in the mixed pressure turbine for the generation of the electrical energy for the electrical load of the mill.

In those mills where the power load exceeds the heating load, this is often the most economical method of driving as regards steam consumption, since the steam available for driving has been used through reciprocating compound engines, and the excess passed over to be taken full advantage of in the mixed pressure turbine. Any additional steam required for the electrical load is automatically provided by the governor and valve gear of the mixed pressure turbine.

In many mills where the main power unit is a compound condensing engine, a mixed pressure turbine could be applied with considerable success. By working the engine non-condensing and passing the steam into the turbine, the power output by the combination might be increased 30 per cent. to 50 per cent. without any increase in the fuel consumption. This is especially so in these cases where the engine was working under over-load conditions. This combination is one of the most attractive methods of increasing the steam efficiency of an existing mill, as the exhaust steam from the engine could be used as a "make-up" supply for the heating mains and the excess passed into the turbine.

Efficiency of the Turbine.—The efficiency ratio of a turbine is closely connected with the size. Within the last few years great improvements have been made in the design of the turbine, and turbines are now built with efficiencies as high as 75 per cent. for very large outputs, but for lower powers the efficiency is not so good. Turbines of 1,000 k.w. and over show efficiencies up to and even higher than 66 per cent. Low pressure or mixed pressure turbines, working between 16 lbs. per square inch absolute with dry steam and 27 ins. to 28 ins. vacuum show a higher efficiency ratio—for machines of moderate output the figure runs from 68 per cent. to 70 per cent. at full load condition. (The efficiency ratio of a turbine is the ratio of the heat actually transformed into mechanical work to the heat available for mechanical work by the adiabatic expansion of the steam from the higher to the lower pressures.)

The mechanical efficiency of the turbine is generally as high as 95 per cent. and sometimes higher.

Generally speaking, below an output of about 500 k.w., a reciprocating condensing engine driven generator is more economical in steam consumption, and less costly than a turbine driven generator, but above this output the turbo unit has the advantage.

UNIFLOW ENGINE.

The "Uniflow" Engine has been applied to paper-mill driving with considerable success, particularly for driving the heater shafting, either directly connected or through ropes.

The development in the application of the uniflow engine principle for paper-mill driving has been the introduction of a compound extraction type engine, having a high pressure cylinder for expanding the steam down to the low pressure required in the heating mains, and a low pressure cylinder on the "uniflow" principle for using the excess steam not required for heating purposes, and expanding this to the fullest extent of the condenser pressure. The steam required for heating purposes is thus taken from the receiver between the two cylinders, and the balance of steam is passed out to the low pressure or "uniflow" cylinder.

If the demand for heating steam continues, a momentary reduction of pressure is caused in the receiver, and immediately the "uniflow" cylinder valve gear comes into action, cutting off the steam supply to this cylinder and simultaneously the speed governor increases the "cut-off" in the high pressure cylinder and more steam is admitted.

A reverse operation occurs when the heating steam demand is reduced, and a similar automatic adjustment of the steam supply

takes place when the power load increases or decreases. This extraction type compound "uniflow" engine, therefore, in common with the ordinary compound engine, is able to abstract from the heating steam the greatest amount of heat as work for a certain drop in pressure, and it is also able to supply the exhaust steam necessary for heating purposes. In addition, the excess steam can be expanded to a far greater degree in the "uniflow" cylinder than is possible in the low pressure cylinder of an ordinary compound condensing engine.

STEAM ENGINE DRIVES FOR PAPER MACHINES.

Paper machines are now almost universally driven in two main sections; (a) the constant speed portion, which includes the machine stiff chests, stuff, back water, vacuum and sheet pumps, with shake apparatus and strainers; and (b) the variable speed portion, which comprises the body of the machine from the breast roll to the reel.

As machines vary considerably in size and speed, depending on the class of paper being made, many points have to be taken into consideration before fixing the most suitable type of driving engine or motor. The most common practice has been to arrange for the constant-speed portion of the machine to be driven by a constant speed engine, generally of the totally enclosed, inverted vertical, simple expansion type, and the variable speed portion to be driven by a similar type of engine, arranged with a speed variation device, so that the paper machine may be run at varying speeds to suit the substance being made. Both these engines are of the back-pressure type, exhausting into a main manifold pipe which feeds the drying cylinders with the heating steam. The usual range of back-pressure for these engines ranges from 2 or 3 lbs. up to 20 lbs., and sometimes even as high as 30 lbs. per square inch gauge.

Up to a few years ago, the boiler steam pressures in paper mills did not exceed 100 to 120 lbs. per square inch, and with a back pressure of say, 10 lbs. per square inch in the exhaust pipe, the simple expansion engine was, and is, the most serviceable type. Of recent years, however, paper-mill steam plants have been renewed, and the tendency has been to instal steam boilers to work at higher pressures; many mills to-day are putting in plant for pressures as high as 200 lbs. per square inch. With these higher steam pressure compound engines on the machines are worthy of consideration, being more economical in steam consumption. Generally speaking, however, these compound engines do not pass enough steam for drying purposes, and the exhaust has to be supplemented. If it can be supplemented by exhaust steam drawn from some other source—say from the main mill engine or turbine, then it is a decided economy to instal compound engines, provided, of course, that the initial steam pressure permits of compounding. If, however, live steam would have to be used as a "make-up," it is advisable to retain the simple expansion engines.

Another factor must be taken into consideration with regard to the use of steam engines, viz., the variable amount of exhaust steam. The power required to drive the constant speed portion of the machine varies very little, being practically independent of the speed of the machine; but the power for driving the variable speed portion varies almost directly as the speed of the machine.

For instance, when the machine is making heavy substances its speed is low, and generally speaking the power required to drive it is also low, consequently the amount of exhaust steam passed is relatively low; while when light weight substances are being made the speed of the machine is considerably increased, and the power taken to drive the machine is proportionately increased, with a consequent increase in the amount of exhaust steam passed.

Now, the steam required for drying remains practically constant and independent of the speed of the machine, as the output of paper from the machine varies very little between the lowest and highest speeds. Therefore, with simple expansion steam engine drives we either get, on the one hand, too little steam for drying purposes, or too much—there being only one position of equilibrium, where the steam passed by the engine is equal to the amount required for drying. This position is rarely attained, and generally a "make-up" supply of live steam is used when running at the lower speeds, and the excess steam is blown away to atmosphere when running at the highest speeds.

From an economical point of view, both practices are bad, and the ideal scheme would be to be able to draw on a constant amount of exhaust steam for drying purposes in the former case, and to find a use for the excess exhaust steam in the latter case.

INTERNAL LUBRICATION OF STEAM ENGINES.

The oil used for the internal lubrication of the engines is carried over into the heating mains by the exhaust steam, and should be removed by some efficient type of oil separator before it is allowed to pass into the drying cylinders.

It is possible, but not generally advisable, to dispense with internal oil lubrication. For instance, graphite can be used where the wearing surfaces are soft and porous, as it fills up the pores and acts as an efficient lubricating medium, but it is less successful where those surfaces are of hard, close-grained cast-iron.

Bronze piston and valve rings may be employed, especially when using saturated steam, but this means increased steam consumption, due mainly to leakage of steam past the valve and piston, owing to the absence of the seal ordinarily produced by the oil film. Even then it is necessary to fit oil flush taps for service in starting up after the week-end stoppage.

POWER DISTRIBUTION IN THE MILL.

The most efficient generation of power can be very readily rendered ineffective by an efficient method of distribution. A consideration of the methods in use will therefore be of interest.

Electric driving has been extensively adopted in the paper mill, especially for the scattered auxiliary plant; and in the case of new plants, the adoption of all-electric driving deserves careful consideration, especially so when the extraction type turbine is being installed as the main power unit.

With this method of power distribution, the whole of the generating plant can be centralised in one power house adjoining the boiler plant. Here the electrical energy is generated and is distributed by insulated cables to the various motors in the mill. This makes a very flexible scheme of power distribution which is under perfect control. Many of the machines in the mill may be individually driven, while others could be grouped and driven by a single motor through ropes, belts, shafting or gears.

The question of whether the current should be alternating or direct, is a matter open to discussion. If the all-electric scheme is adopted for driving the mill, A.C. current should, undoubtedly, be employed, as the greater portion of the power load will be at constant speed. Up to a few years ago, it was impossible to obtain variable speed A.C. motors, and it was necessary to transform to D.C. current for the variable speed work of the mill. It is now possible, however, to obtain very efficient and reliable variable speed A.C. motors; but as yet, these have not been developed on a commercial scale to give a speed range greater than 3 to 1, and this range is not great enough for the driving of some paper machines.

In the case of mills using a steam engine with lineshaft drive for the preparation plant, then D.C. current for the paper machines and auxiliary machinery is probably more convenient, owing to its variable speed feature and to its generally slower speeds. On the other hand, however, there is commutator trouble and the up-keep is greater than with motors with A.C. current. As a class, A.C. motors run at higher speeds than D.C. motors, and have less wearing parts; but have inherent power factor trouble, which, while not affecting the running of the motor, necessitates a greater generating unit. A.C. motors, therefore, should be run continuously at their full-rated load, if possible, so as to keep a good figure for the power factor of the plant.

The turbo-alternator is best suited for large installations of the A.C. type, as it requires less care and maintenance cost than a D.C. generator; but if the electrical load is not very great, a geared turbine driven D.C. generator will make a very serviceable and economical unit, especially if this turbine be of the mixed pressure type, using the excess exhaust steam from the compound non-condensing engines on the machines and beater shafting.

With the "all-electric" system of driving there is a double transformation of energy between the prime mover and the paper-mill machinery, viz: -

- (a) the generation of mechanical energy in the turbine or engine;
- (b) the transformation of this energy into electrical energy;
- (c) and the regeneration of mechanical energy by the motors in the mill.

The efficiency of (b) often reaches 93 per cent. and of (c) (90 per cent.) at full load.

Many of the motors used in paper mills can show a fairly high efficiency, in some cases as high as 90 per cent. at their full rated load. Lineshafting and belts throughout a paper mill cannot

improve on this efficiency, even when in perfect alignment, and if there should be any want of alignment, the power necessary to drive the shafting considerably increases. In some mills the alignment of the shafting, condition of the bearings and the design of the drives are so bad that a large amount of power is unnecessarily wasted in friction.

There is no disputing the fact that electric machinery is more complicated and expensive, and requires more attention than the mechanical; and if it be neglected to the same extent as is generally the case with the mechanical equipment, the results, both in reliability and economy, would not compare with the latter. Thus, unless electric machinery can be guaranteed every attention, it is as well to make use of line-shafting wherever possible, say to drive beaters and breakers and to drive other parts of the plant, such as super-calenders, re-reelers, cutters, etc., by electricity.

ECONOMICS.

So far we have considered general principles only, but it would be interesting to apply the conclusions arrived at to practical mill power and heat problems. Suppose, for example, we take a 4-machine mill for the manufacture of news print paper from wood pulp. The plant for a news mill has now been worked out to something like finality. Table 2 gives the heat and power requirements of the mill.

Scheme 1.

The electrical load of the mill is supplied by a 500 k.w., D.C. mixed pressure geared turbo generator, arranged to run either as a high-pressure machine or under mixed pressure conditions, using the excess low pressure steam from the mill.

Table 3 shows the steam and power requirements of this scheme.

Scheme 2.

The alternative scheme of driving is the "all-electric" drive, with extraction type steam turbo-driven alternator. The steam and power requirements are shown in Table 4.

Only two alternative methods of driving have been compared. It is possible, however, for the mill to be driven in other ways, and other modifications of the methods shown, e.g., instead of the mixed pressure turbine being used in Scheme 1, a high-speed steam engine driven D.C. generator could have been installed. This, however, would not have shown a greater economy in steam consumption when using high-pressure steam than the mixed pressure turbine, and it is quite unable to use the excess exhaust steam available from the mill in such cases as when felts are being washed, &c. In a case like this, the excess steam would have to be blown away to the atmosphere, and only a part of it could be saved by use in the feed water heater.

In the figures of these two schemes, it will be seen that the total steam required for driving the machine and preparation plant (16,000 lbs. per hour) is equal to the amount of steam required for heating the drying cylinders and for the hot air plant. Thus, the power required to drive this part of the mill plant is obtained, as it were, as a "by-product." In practice, however, the amount of steam for drying and that passed by the engines would not exactly coincide, so that in the one case live steam would have to be used as a "make-up," and this should preferably be used in the hot air plant, and on the other hand, when steam passed by the engines exceeded that required for drying, this excess steam would be used in the low pressure stages of the mixed pressure turbo-generator.

In choosing the best scheme for the driving of a paper mill, other factors must be taken into consideration. Reliability, as previously stated, comes first of all, but initial and maintenance cost must also be fully considered. As regards reliability, Scheme 1 may, without hesitation, be considered more reliable than Scheme 2, for this reason: if anything goes wrong with the steam end, the electrical end, or the condenser end of the main power unit in Scheme 2, the whole mill will be shut down, unless there be a complete "stand-by" unit; whereas, if a similar thing should take place in Scheme 1, the greater portion of the mill can keep in efficient operation.

Again, the compound engines in Scheme 1 are equally reliable as the motors in Scheme 2, so that, if one of them fails, it will shut down only that particular machine, and not interfere with the rest of the plant.

As regards initial cost, there is no doubting that Scheme 1 is considerably cheaper than Scheme 2.

ALTERATION TO DRIVING ARRANGEMENT OF AN EXISTING MILL.

Suppose we consider what economy could be obtained by altering the driving arrangement of an existing mill, e.g., let us take a four-machine news mill of the same size as before, where the machines are driven by simple expansion non-condensing

engines, passing the steam into the drying cylinders, the "make-up" being supplied by live steam. The breakers and Jordans are driven from a lineshaft in the basement, which in turn is driven by means of ropes from a cross compound horizontal condensing engine. The electrical load of the mill is obtained from a 500 k.w., D.C. generator driven by ropes from the lineshaft.

The steam requirements for this plant are shown in Table 5. If the simple expansion engines on the machines be replaced by compound engines; and if the main engine be converted from condensing into non-condensing, the exhaust steam being used as "make-up" supply for heating the drying cylinders, etc., and the excess passing over to a "mixed pressure" turbo-generator for the electrical load of the mill; then the steam requirements would be as shown in Table 6. Here it is seen that 18,000 lbs. of steam may be saved per hour by this alteration of plant which at 9 lbs. of steam per lb. of coal gives a saving of 2,000 lbs. of coal per hour, equal to a saving of 2½ cwt. of coal per ton of paper produced.

TABLE 2.

HEAT AND POWER REQUIREMENTS FOR 4-MACHINE NEWS MILL.

Half Stuff Wood Pulp, 75 per cent. Mechanical, 25 per cent. Chemical.	
Width of finished paper from each machine	154 ins.
Average hourly output per machine	4,000 lbs.
Heating requirements per machine	
Steam for heating the drying cylinders, at 10 lbs. gauge pressure. (Assuming 3.5 lbs. of steam per lb. of paper)	14,000 lbs.
Steam for hot air plant. (Assuming 0.5 lb. of steam per lb. of paper)	2,000 lbs.
Total heating steam per machine per hour	16,000 lbs.
Power requirements per machine	
For preparation plant	250-275 B.H.P. per hr.
For constant speed portion of machine	220-230 " "
For variable speed portion of machine	300-325 " "
	800 B.H.P. per hr.
Power for auxiliary machinery driven electrically (e.g. 2 super calenders, 4 re-reelers, cutter, mechanics' shop with buffing machine, pulp and coal handling plant, main water, pumps, lighting, etc.)	400-500 k.w. hrs.

TABLE 3.

POWER PLANT FOR 4-MACHINE NEWS MILL.

Scheme No. 1.

Compound two-cylinder non-condensing steam engines A., B., C. for driving the preparation plant and the paper machines, with a mixed pressure 500 k.w. D.C. geared turbo-generator for electrical load.

Steam at engines—

Initial pressure	180 lbs. per sq. in. (gauge).
Superheated	150° Fahr.
Back pressure	10 lbs. per sq. in. (gauge).
Steam consumption	approximately 20 lbs. per B.H.P. hour.
Steam required for engines A., B., and C. for 1 machine,	16,000 lbs. per hour.
Total steam for 4 machines,	64,000 lbs. per hour.
Steam at mixed pressure turbine—	
Initial pressure	190 lbs. per sq. in. (gauge).
Superheated	200° Fahr.
Vacuum	28.5 in. Barometer 30 in.
Steam required for mixed pressure turbo-generator—	
	Full load.

(a) When working as high pressure machine at 16 lbs. per k.w. hour

(b) When working as low pressure machine at 30 lbs. per k.w. hour

Total steam required under normal working conditions, 72,000 lbs.

Coal consumption per hour. (Assuming 8 lbs. of steam per b. of coal, 9,000 lbs.)

Coal consumption per ton of paper produced, 0.56 ton (11.25 cwt.).

TABLE 4.
POWER PLANT FOR 4-MACHINE NEWS MILL.
Scheme No. 2.

All electric drive for the Mill with extraction type turbine-driven alternator in central power house.

Steam at Turbine.

Initial pressure	190 lbs. per sq. in. (gauge).
Superheated	200° Fahr.
Extraction pressure	12 lbs. per sq. in. (gauge).
Vacuum	28.5 ins. Barometer 30 ins.

Total load at generator for the whole Mill, allowing for efficiencies of motors, transmission losses, condenser auxiliaries, etc., etc., 3,000 k.w.

Steam by-passed into heating mains, 64,000 lbs. per hour.

Total steam consumption of turbo-alternator under normal working conditions, 82,000 lbs. per hour.

Coal consumption per hour. (Assuming 8 lbs. of steam per lb. of coal), 10,250 lbs. per hour.

Coal consumption per ton of paper produced, 0.64 tons (12.8 cwt.).

TABLE 5.

EXISTING POWER PLANT OF 4-MACHINE NEWS MILL.

Steam at Machine Engines.

Initial pressure	140 lbs. per sq. in. (gauge).
Superheated	100° Fahr.
Back pressure	10 lbs. per sq. in. (gauge).
Steam consumption	32 lbs. per B.H.P. hour.

Machine Engines:

Variable Speed	325 B.H.P.
Constant Speed	75 B.H.P.

Total power 400 B.H.P. per machine.

Total steam consumption by the machine

engines	51,200 lbs. per hour
"Make-up" live steam	12,800 "

Total steam for drying 64,000 "

Steam at main engine.

Initial pressure	150 lbs. per sq. in.
Superheated	150° Fahr.
Vacuum	26 ins.
Steam consumption	13 lbs. per B.H.P. hour.

Load on engine, 24,000 B.H.P.

Steam consumption of main engine, 31,200 lbs. per hour.

Total steam consumption for the Mill, 95,200 lbs. per hour.

TABLE 6.

PROPOSED ALTERATION TO POWER PLANT OF 4-MACHINE MILL.

Compound engines for driving the paper machine, approximate steam consumption 22 lbs. per B.H.P. hour.

Total steam consumption of machine

engines	35,200 lbs. per hour
"Make-up" low pressure steam required for heating purposes	28,800 "

Total steam for drying 64,800 "

Main engine converted into non-condensing with 10 lbs. per sq. in. back pressure, and a load of 1,700 B.H.P.

Steam consumption, 23 lbs. per B.H.P. hour.

Total steam used by main engine, 39,100 lbs. per hour.

Of this 39,100 lbs. of low pressure steam from the main engine, 28,800 lbs. have been taken from the "make-up" heating steam in the machine house, leaving 10,300 lbs. available for the mixed pressure turbine.

Additional live steam required by the mixed pressure turbine for full load, approximately 3,000 lbs. per hour.

Total steam consumption for the mill, 77,200 lbs. per hour.

SELECTION, PURCHASE AND USE OF COAL.

The selection, purchase and use of coal are important factors in the economical operation of the mill. Very few paper mills take the trouble to analyse their coal supplies, or to test their calorimetric value. They generally pay every attention to the testing of moisture, etc., when purchasing wood pulp, but the coal is purchased with little regard to its quality.

The limits of choice for any mill are, of course, governed by its locality, but generally there are several classes of coal to select from. A sample of each should be tested for moisture, ash, sulphur and volatile matter, and in addition a calorimetric estimation of its heating value should be obtained. These are the factors which must be considered in judging the relative values of the coals, although there are many other points almost of equal importance, such as their behaviour on the grate of

the boiler, the amount of air required for combustion, &c. All these points should be considered in conjunction with the price of the coal (including freightage), and the most economical coal is the one which gives the largest amount of heat per unit cost.

Storage of Coal.—Considerable attention must be paid to the coal pile, as this is often a source of loss of heat, even in some cases amounting to 10 per cent. of the total thermal value of the coal. Mills generally consider it advisable to store large supplies of coal, and these require correct storage, so as to minimise the loss through deterioration. Coals of different quality and size require different treatment.

The best way of storing slack or fine coal to ensure the minimum of loss is under water, but this is not usually convenient.

Anthracite coal is not subject to spontaneous combustion, and could be stored to an unlimited extent in one pile. Bituminous coal will, however, ignite and suffer disintegration very readily, and this coal should be handled to produce as little dust and fine coal as possible, as this in the pile very readily causes oxidation and spontaneous combustion.

Coals of different varieties should not be mixed together in storage, because some varieties of coal have a greater tendency towards spontaneous combustion than others, and would jeopardize the safety of the entire pile.

Coal should either be piled to permit of a free circulation of air, so as to carry off the heat due to the oxidation of the carbon, or else packed so closely that air cannot enter the pile and stimulate this oxidation. For ordinary bituminous fuel, the pile should never be over 12 feet in height, and no part of the interior of the pile should be more than 10 feet from an air-cooled surface.

The constant wetting and drying of coal stored in the open tends to rapid deterioration, and it is thought that this is the main cause of spontaneous combustion.

In order to ensure the greatest economy in stacking coal, regular inspection is necessary, and if the temperature rises much above 150°F., it is advisable to remove the coal to some other part, and thereby cool it down. When coal has once been weathered and cooled down in this way, it very rarely causes any further trouble.

ECONOMY IN THE BOILER ROOM.

Coal when burned in the boiler gives out heat, which is either absorbed by the boiler itself, or is dissipated up the stack into the ash pit, or into the air surrounding the boiler. The heat absorbed by the boiler determines the efficiency of the plant, and every endeavour should be made in order to increase this amount and reduce the waste represented by the hot gases passing into the stack, etc. The largest waste is naturally up the stack.

In order to ensure the greatest economy, the boilers should be kept as clean as possible, both internally and externally, so that they may abstract the maximum number of heat units from the hot gases.

The combustion also should be as near perfect as possible, without supplying too much air to the fire grate. One of the best tests we have for determining the efficiency of combustion is the estimation of the CO₂ in the waste gases passing to the chimney, and a CO₂ recorder should be in constant use. A registration of at least 10 to 12 per cent. CO₂ should be obtained from flue gases, in order to ensure the maximum fuel economy. With mechanical stokers the percentage of CO₂ can be kept steady about 14 per cent., but by hand firing the percentage varies a great deal.

The feed water supplied to the boiler should be as hot as possible, the temperature should be around 250° or over, and it is important to remember that every 10° that the feed water is heated means a saving of nearly 1 per cent. of coal.

No boiler plant is complete unless economisers and superheaters are fitted. The economiser has long been established in practice, and little need be said as to its great value in increasing the efficiency of the boiler plant. Superheaters, while not increasing the efficiency of the boiler, are conducive to the greater efficiency in the power plant.

Modern steam raising is really a process in three stages. The economiser should supply the boiler with feed water as near the temperature as possible of that of the steam in the boiler. The boiler should supply the latent heat only, producing steam at the required pressure; the superheater should dry and superheat this steam to the required temperature.

Waste gases from the boiler, if no economiser were fitted, would carry away with them a large amount of heat, the temperature of these gases often exceeding 600°F. With an economiser,

however, a great portion of this heat is abstracted, the temperature of the gases when leaving the economiser being reduced to 350°F., or even lower.

Coal is often wasted by running more boilers than necessary to carry the load. Boilers generally work at the greatest efficiency at some certain evaporation, and they should be kept as near this mark as possible. If at any time the demand for steam is reduced, it is more economical to work a fewer number of boilers at their maximum steaming efficiency and to "bank" the rest than to keep all working at reduced steaming capacity.

Another important point in the efficiency of the boiler plant is to see that there are no leaks of air into the system. Cold air entering the boiler plant lowers the temperature of the gases, and thereby decreases the rate of exchange of the heat from the hot gases to the water in the boiler.

Another frequent source of loss of heat is a short-circuiting of the flue gases, owing to leakages in the boiler settings.

Heat is also lost by radiation from exposed parts of the boiler, uncovered steam pipes, valves, &c. All these should be insulated as far as possible by thick insulating material, especially in the case of pipes carrying high pressure steam, as this, being at a high temperature, readily loses heat to the surrounding cool atmosphere.

* * *

In conclusion, it is very necessary that reliable apparatus should be installed whereby such important information as the following can be obtained:—

(1) Coal consumption; (2) Temperature of the gases, and the amount of CO₂ entering the chimney; (3) Temperature and amount of feed water to boilers; (4) Temperature, pressure and amount of steam generated; (5) Steam consumptions for power and heating purposes, &c., &c.

Tabulated records of this nature are of the greatest assistance in running a paper mill with economy and efficiency, and no mill can be considered really up-to-date where they are not available.

DISCUSSION.

Mr. Baker said the question of fuel economy was one of the most pressing problems of the day, for something like 75,000,000 to 100,000,000 tons were used each year in this country for steam generation. It was claimed that nearly 55 per cent. to 75 per cent. could be saved under proper conditions. Paper makers were very large consumers of coal, and he put it in the neighbourhood of 40,000,000 tons per year. If they only adopted some scientific method of economy, they could save from ten to twenty per cent. by the easiest means. It was quite impossible to discuss the subject at that meeting, but if anybody would send written contributions on the subject, they would be published when the right time came.

Dr. Macdonald advocated closer co-operation between the engineer and the chemist in the paper trade. If any man had made good, that man was the engineer. He had done practically everything, and it was through his hard and practical thinking that paper-making had reached the high perfection that it had reached to-day. There was no reason why it should stop. Every improved method of working meant a better return, better efficiency and better conditions all round, and that could only be attained by the close co-operation of the engineer and chemist. The Chairman had shown where this co-operation might take place. Their coal consumption was an all-important factor. The cost of lubrication was another serious item in expenditure, and while engineers as a whole were rather sceptical in thinking that the chemist could very materially assist the work as the user of the oil was the engineer, he (the speaker) believed the chemist might give them a tip or two as to its use. During the first year a vast deal of work had been done about lubrication and in the matter of digestion and the treatment of raw materials such as esparto or rags. In future there must be close co-operation between the engineer and the chemist, so that these matters could be dealt with more scientifically than in the past. Such questions as how much steam they could use economically for the process of digestion, whether rag or whether raw material, such as esparto. This was largely an over-heated treatment. They knew very little about fibrous matter when treated with liquors. That was a very important point where the chemist and engineer could co-operate. The lecturer had dealt with so much matter that he feared he had bewildered him, as he was only a chemist. (Laughter.)

Mr. A. B. Mallinson said Mr. Adamson's paper brought out prominently the advantage of having mills on quite an ambitious and costly scale. Unfortunately, the old mills were still here,

and it would cost money to bring them up-to-date on the wonderful lines Mr. Adamson had sketched out. Every mill would have to be considered on its own individual merits, and improvements would have to be effected whenever opportunity presented itself. As regarded boiler plant, there was more lost in boiler plant than in any other portion of a mill. The boiler-house was often in a wrong position, which necessitated a long steam pipe and consequently much waste of steam, which in some mills cost a firm £132 per week for coal. The lecturer had dealt with the need of electrical apparatus for registering the temperatures, etc., but it would be necessary to have a skilled man to look after it, and that alone. The saving in coal would be considerable. With regard to electric driving in paper mills, there was a certain amount of prejudice against it, and one might find himself in a hornets' nest. This prejudice was largely due to the inefficient experiments of those who had gone too early into the matter of electric driving. There was no doubt that it was equally reliable with steam in driving paper machines, and he had yet to find the mill to go back to steam but they had got to consider the whole thing from A to Z. With regard to turbines, they had found that even skilled engineers had turned them down on account of breakdowns, and as they were afraid of having all their eggs in one basket, they preferred to keep their old steam power going while the engineers were fiddling round to make the turbines right. (Laughter.)

Mr. Tod said that concerning the reliability of turbines, they introduced them in April, 1913, and he did not think there was any power more reliable. Moreover, since they put the turbines in, they had reduced their coal consumption by one-half.

Mr. Parker Smith said with regard to turbines, he thought firms should decide upon having a standard type. (Hear, hear.) Were a standard type adopted the question of repairs would resolve itself to a minimum of time and cash. What a saving it would mean all round.

Mr. T. D. Nuttall congratulated the lecturer on the subject of his paper. He himself had already given lectures on the subject of lighting and heating at Stockholm, Sweden, and London, twenty years ago. When undertaking lighting, they could not consider the heating requirements. Some mills required great heat and smaller power, and others a great amount of power and a small amount of heat. It required every effort to balance the power and heat, and while they should be linked together, to give uniformity, it was a very difficult thing to so unite the two. Two years ago he obtained a patent for balancing up the two, but he had not been able to do anything yet. They wanted to keep the two united together and not destroy the mill itself as a dry unit and a power unit. He quite agreed with Mr. Parker Smith that a whole day should be devoted to a discussion on the subject, because it was a question of paramount interest, especially when they considered the coal trade position.

Mr. Baker said it would be quite a good thing to arrange two or three months hence for two days to discuss this very important question first of all the steam generation and the use of the steam when once generated, for which they would require specialists on both sides. The day's proceedings had shown that they had real technical experts in their industry, and paper makers would now recognise by force of circumstances that they had competent lecturers, engineers, chemists, and the rest of it. (Hear, hear.) That day's proceedings would bring it home to them, as it had never been brought home before. They had reason to congratulate themselves on making such an excellent start. (Hear, hear.)

Mr. Adamson, in reply, said the subject was a big one for one lecture. When he was asked to give the lecture on that subject, he found immediately that he could not deal with power and heating requirements separately. In the case of a "news" mill, where esparto was largely, if not entirely, used for heating and digestion, steam was the most useful agent where they could get all the power required for paper-mill work.

Mr. T. Parker Smith felt that that meeting was the opening of a new chapter in the British paper industry. Something had been said about having new mills. He sincerely hoped that the demand for British paper for export would be doubled and that twice as many mills as they already had would be required, for they had as good traditions as paper-makers as any other country in the world. He proposed that a cordial vote of thanks be tendered to Messrs. Adamson, Aitken, Gemmell, McIvor and Strachan for their excellent and exhaustive papers, to Mr. Arthur Baker for his conduct in the chair, and to Mr. W. Leonard Tod (President of the Papermakers' Association) for his presence and assistance at this the first conference of the Section.

Mr. Alexander, in seconding, said he had attended many of the meetings of the Association. They had had sectional meetings, browns, printing and news, but never had he seen such an enthusiastic gathering or section of the trade. They had held a meeting that day which he hoped had inaugurated a successful future for the industry. (Hear, hear.)

Mr. Baker, in returning thanks, said he was sure Mr. Tod's report of the Conference to the Association would show what value he attached to that movement. They did want to get the paper-makers, engineers, and others to see the value of these discussions and papers. (Applause.)

The Conference concluded about 9 p.m.

On the following morning a party of inspection visited the Stuart Street Electric Power Station, and the remainder of the Conference members proceeded by train to Radcliffe to visit the fine mills of the East Lancashire Paper Mill Co., Ltd., at the kind invitation of the managing director, Mr. Charles R. Seddon, J.P. Needless to add, the visitors were deeply impressed, and a hearty vote of thanks was passed to Mr. Seddon before leaving for Manchester.

THE HELE PAPER MILL AND A FLOODED ROAD.

At a meeting on October 15 of the Bridges and Main Roads Committee of the Devon County Council, at Exeter, the Surveyor of the Eastern Division reported that he had, as requested, made an inspection of Hele Bridge and the long raised approach from the railway bridge to Hele Paper Mill. The length of the approach road between the river and railway was about 150 yards, supported on retaining walls with ornamental iron palisade fences four feet above the adjoining marsh land, with three openings under the roadway for carrying off flood water. From local information he gathered that the river frequently overflowed its banks, and the marshland was submerged. It was contended by the proprietors of the Hele Paper Mill that the present-day flood openings under the roadway are not sufficient to carry the water in time of flood, and that additional openings should be provided. The Surveyor was of opinion that more openings would not effectually prevent the land from being submerged, but an improvement could be made by clearing the adjoining channels and ditches. As a considerable amount would have to be done to strengthen and rebuild the retaining walls of the roadway, the Surveyor suggested that a sub-committee should meet on the site to discuss this and the matter of additional flood water openings.

Mr. Gent said all mill-owners were subject at times to the trouble which appeared to have overtaken the Hele Paper Mill by recurrent floods. It was one of the drawbacks of mill working, and the proprietors must put up with it, just as people had to put up with many things now without calling on a public body to smooth over their trials and difficulties. If the County Council undertook this work, it would be found that other milling interests, suffering in like manner during wet seasons, would be appealing also for assistance. While he had every sympathy with any firm whose business was interfered with by floods, he was not going to vote the money of the public to obviate it. He warned the Committee that if they took up this grievance it would be only the first of a series of cases for public assistance in the same way.

The Committee decided to take no action at present.



MESSRS. ED. BENNIS & Co., LTD., of 26, Victoria Street, S.W., have favoured us with a copy of their new booklet entitled "The Bennis Steam Table." It is a concise and handy publication, full of excellent information to those connected with the engineering trade.

the boiler, the amount of air required for combustion, &c. All these points should be considered in conjunction with the price of the coal (including freightage), and the most economical coal is the one which gives the largest amount of heat per unit cost.

Storage of Coal.—Considerable attention must be paid to the coal pile, as this is often a source of loss of heat, even in some cases amounting to 10 per cent. of the total thermal value of the coal. Mills generally consider it advisable to store large supplies of coal, and these require correct storage, so as to minimise the loss through deterioration. Coals of different quality and size require different treatment.

The best way of storing slack or fine coal to ensure the minimum of loss is under water, but this is not usually convenient.

Anthracite coal is not subject to spontaneous combustion, and could be stored to an unlimited extent in one pile. Lignite coal will, however, ignite and suffer disintegration very readily, and this coal should be handled to produce as little dust and fine coal as possible, as this in the pile very readily causes oxidation and spontaneous combustion.

Coals of different varieties should not be mixed together in storage, because some varieties of coal have a greater tendency towards spontaneous combustion than others, and would jeopardize the safety of the entire pile.

Coal should either be piled to permit of a free circulation of air, so as to carry off the heat due to the oxidation of the carbon, or else packed so closely that air cannot enter the pile and stimulate this oxidation. For ordinary bituminous fuel, the pile should never be over 12 feet in height, and no part of the interior of the pile should be more than 10 feet from an air-cooled surface.

The constant wetting and drying of coal stored in the open tends to rapid deterioration, and it is thought that this is the main cause of spontaneous combustion.

In order to ensure the greatest economy in stacking coal, regular inspection is necessary, and if the temperature rises much above 150°F., it is advisable to remove the coal to some other part, and thereby cool it down. When coal has once been weathered and cooled down in this way, it very rarely causes any further trouble.

ECONOMY IN THE BOILER ROOM.

Coal when burned in the boiler gives out heat, which is either absorbed by the boiler itself, or is dissipated up the stack into the ash pit, or into the air surrounding the boiler. The heat absorbed by the boiler determines the efficiency of the plant, and every endeavour should be made in order to increase this amount and reduce the waste represented by the hot gases passing into the stack, etc. The largest waste is naturally up the stack.

In order to ensure the greatest economy, the boilers should be kept as clean as possible, both internally and externally, so that they may abstract the maximum number of heat units from the hot gases.

The combustion also should be as near perfect as possible, without supplying too much air to the fire grate. One of the best tests we have for determining the efficiency of combustion is the estimation of the CO_2 in the waste gases passing to the chimney, and a CO_2 recorder should be in constant use. A registration of at least 10 to 12 per cent. CO_2 should be obtained from flue gases, in order to ensure the maximum fuel economy. With mechanical stokers the percentage of CO_2 can be kept steady about 14 per cent., but by hand firing the percentage varies a great deal.

The feed water supplied to the boiler should be as hot as possible, the temperature should be around 250° or over, and it is important to remember that every 10° that the feed water is heated means a saving of nearly 1 per cent. of coal.

No boiler plant is complete unless economisers and superheaters are fitted. The economiser has long been established in practice, and little need be said as to its great value in increasing the efficiency of the boiler plant. Superheaters, while not increasing the efficiency of the boiler, are conducive to the greater efficiency in the power plant.

Modern steam raising is really a process in three stages. The economiser should supply the boiler with feed water as near the temperature as possible of that of the steam in the boiler. The boiler should supply the latent heat only, producing steam at the required pressure; the superheater should dry and superheat this steam to the required temperature.

Waste gases from the boiler, if no economiser were fitted, would carry away with them a large amount of heat, the temperature of these gases often exceeding 600°F. With an economiser,

however, a great portion of this heat is abstracted, the temperature of the gases when leaving the economiser being reduced to 350°F., or even lower.

Coal is often wasted by running more boilers than necessary to carry the load. Boilers generally work at the greatest efficiency at some certain evaporation, and they should be kept as near this mark as possible. If at any time the demand for steam is reduced, it is more economical to work a fewer number of boilers at their maximum steaming efficiency and to "bank" the rest than to keep all working at reduced steaming capacity.

Another important point in the efficiency of the boiler plant is to see that there are no leaks of air into the system. Cold air entering the boiler plant lowers the temperature of the gases and thereby decreases the rate of exchange of the heat from the hot gases to the water in the boiler.

Another frequent source of loss of heat is a short-circuiting of the flue gases, owing to leakages in the boiler settings.

Heat is also lost by radiation from exposed parts of the boiler, uncovered steam pipes, valves, &c. All these should be insulated as far as possible by thick insulating material, especially in the case of pipes carrying high pressure steam, as this, being at a high temperature, readily loses heat to the surrounding cool atmosphere.

* * *

In conclusion, it is very necessary that reliable apparatus should be installed whereby such important information as the following can be obtained:—

(1) Coal consumption; (2) Temperature of the gases, and the amount of CO_2 entering the chimney; (3) Temperature and amount of feed water to boilers; (4) Temperature, pressure and amount of steam generated; (5) Steam consumptions for power and heating purposes, &c., &c.

Tabulated records of this nature are of the greatest assistance in running a paper mill with economy and efficiency, and no mill can be considered really up-to-date where they are not available.

DISCUSSION.

Mr. Baker said the question of fuel economy was one of the most pressing problems of the day, for something like 75,000,000 to 100,000,000 tons were used each year in this country for steam generation. It was claimed that nearly 55 per cent. to 75 per cent. could be saved under proper conditions. Paper makers were very large consumers of coal, and he put it in the neighbourhood of 40,000,000 tons per year. If they only adopted some scientific method of economy, they could save from ten to twenty per cent. by the easiest means. It was quite impossible to discuss the subject at that meeting, but if anybody would send written contributions on the subject, they would be published when the right time came.

Dr. Macdonald advocated closer co-operation between the engineer and the chemist in the paper trade. If any man had made good, that man was the engineer. He had done practically everything, and it was through his hard and practical thinking that paper-making had reached the high perfection that it had reached to-day. There was no reason why it should stop. Every improved method of working meant a better return, better efficiency and better conditions all round, and that could only be attained by the close co-operation of the engineer and chemist. The Chairman had shown where this co-operation might take place. Their coal consumption was an all-important factor. The cost of lubrication was another serious item in expenditure, and while engineers as a whole were rather sceptical in thinking that the chemist could very materially assist the men—as the user of the oil was the engineer, he (the speaker) believed the chemist might give them a tip or two as to its use. During the first year a vast deal of work had been done about lubrication and in the matter of digestion and the treatment of raw materials such as esparto or rags. In future there must be close co-operation between the engineer and the chemist, so that these matters could be dealt with more scientifically than in the past. Such questions as how much steam they could use economically for the process of digestion, whether rag or whether raw material, such as esparto. This was largely an over-heated treatment. They knew very little about fibrous matter when treated with liquors. That was a very important point where the chemist and engineer could co-operate. The lecturer had dealt with so much matter that he feared he had bewildered him, as he was only a chemist. (Laughter.)

Mr. A. B. Mallinson said Mr. Adamson's paper brought out prominently the advantage of having mills on quite an ambitious and costly scale. Unfortunately, the old mills were still here,

and it would cost money to bring them up-to-date on the wonderful lines Mr. Adamson had sketched out. Every mill would have to be considered on its own individual merits, and improvements would have to be effected whenever opportunity presented itself. As regarded boiler plant, there was more lost in boiler plant than in any other portion of a mill. The boiler-house was often in a wrong position, which necessitated a long steam pipe and consequently much waste of steam, which in some mills cost a firm £132 per week for coal. The lecturer had dealt with the need of electrical apparatus for registering the temperatures, etc., but it would be necessary to have a skilled man to look after it, and that alone. The saving in coal would be considerable. With regard to electric driving in paper mills, there was a certain amount of prejudice against it, and one might find himself in a hornets' nest. This prejudice was largely due to the inefficient experiments of those who had gone too early into the matter of electric driving. There was no doubt that it was equally reliable with steam in driving paper machines, and he had yet to find the mill to go back to steam but they had got to consider the whole thing from A to Z. With regard to turbines, they had found that even skilled engineers had turned them down on account of breakdowns, and as they were afraid of having all their eggs in one basket, they preferred to keep their old steam power going while the engineers were fiddling round to make the turbines right. (Laughter.)

Mr. Tod said that concerning the reliability of turbines, they introduced them in April, 1913, and he did not think there was any power more reliable. Moreover, since they put the turbines in, they had reduced their coal consumption by one-half.

Mr. Parker Smith said with regard to turbines, he thought firms should decide upon having a standard type. (Hear, hear.) Were a standard type adopted the question of repairs would resolve itself to a minimum of time and cash. What a saving it would mean all round.

Mr. T. D. Nuttall congratulated the lecturer on the subject of his paper. He himself had already given lectures on the subject of lighting and heating at Stockholm, Sweden, and London, twenty years ago. When undertaking lighting, they could not consider the heating requirements. Some mills required great heat and smaller power, and others a great amount of power and a small amount of heat. It required every effort to balance the power and heat, and while they should be linked together, to give uniformity, it was a very difficult thing to so unite the two. Two years ago he obtained a patent for balancing up the two, but he had not been able to do anything yet. They wanted to keep the two united together and not destroy the mill itself as a dry unit and a power unit. He quite agreed with Mr. Parker Smith that a whole day should be devoted to a discussion on the subject, because it was a question of paramount interest, especially when they considered the coal trade position.

Mr. Baker said it would be quite a good thing to arrange two or three months hence for two days to discuss this very important question first of all the steam generation and the use of the steam when once generated, for which they would require specialists on both sides. The day's proceedings had shown that they had real technical experts in their industry, and paper makers would now recognise by force of circumstances that they had competent lecturers, engineers, chemists, and the rest of it. (Hear, hear.) That day's proceedings would bring it home to them, as it had never been brought home before. They had reason to congratulate themselves on making such an excellent start. (Hear, hear.)

Mr. Adamson, in reply, said the subject was a big one for one lecture. When he was asked to give the lecture on that subject, he found immediately that he could not deal with power and heating requirements separately. In the case of a "news" mill, where esparto was largely, if not entirely, used for heating and digestion, steam was the most useful agent where they could get all the power required for paper-mill work.

Mr. T. Parker Smith felt that that meeting was the opening of a new chapter in the British paper industry. Something had been said about having new mills. He sincerely hoped that the demand for British paper for export would be doubled and that twice as many mills as they already had would be required, for they had as good traditions as paper-makers as any other country in the world. He proposed that a cordial vote of thanks be tendered to Messrs. Adamson, Aitken, Gemmell, McIvor and Strachan for their excellent and exhaustive papers, to Mr. Arthur Baker for his conduct in the chair, and to Mr. W. Leonard Tod (President of the Papermakers' Association) for his presence and assistance at this the first conference of the Section.

Mr. Alexander, in seconding, said he had attended many of the meetings of the Association. They had had sectional meetings, browns, printing and news, but never had he seen such an enthusiastic gathering or section of the trade. They had held a meeting that day which he hoped had inaugurated a successful future for the industry. (Hear, hear.)

Mr. Baker, in returning thanks, said he was sure Mr. Tod's report of the Conference to the Association would show what value he attached to that movement. They did want to get the paper-makers, engineers, and others to see the value of these discussions and papers. (Applause.)

The Conference concluded about 9 p.m.

On the following morning a party of inspection visited the Stuart Street Electric Power Station, and the remainder of the Conference members proceeded by train to Radcliffe to visit the fine mills of the East Lancashire Paper Mill Co., Ltd., at the kind invitation of the managing director, Mr. Charles R. Seddon, J.P. Needless to add, the visitors were deeply impressed, and a hearty vote of thanks was passed to Mr. Seddon before leaving for Manchester.

THE HELE PAPER MILL AND A FLOODED ROAD.

At a meeting on October 15 of the Bridges and Main Roads Committee of the Devon County Council, at Exeter, the Surveyor of the Eastern Division reported that he had, as requested, made an inspection of Hele Bridge and the long raised approach from the railway bridge to Hele Paper Mill. The length of the approach road between the river and railway was about 150 yards, supported on retaining walls with ornamental iron palisade fences four feet above the adjoining marsh land, with three openings under the roadway for carrying off flood water. From local information he gathered that the river frequently overflowed its banks, and the marshland was submerged. It was contended by the proprietors of the Hele Paper Mill that the present-day flood openings under the roadway are not sufficient to carry the water in time of flood, and that additional openings should be provided. The Surveyor was of opinion that more openings would not effectually prevent the land from being submerged, but an improvement could be made by clearing the adjoining channels and ditches. As a considerable amount would have to be done to strengthen and rebuild the retaining walls of the roadway, the Surveyor suggested that a sub-committee should meet on the site to discuss this and the matter of additional flood water openings.

Mr. Gent said all mill-owners were subject at times to the trouble which appeared to have overtaken the Hele Paper Mill by recurrent floods. It was one of the drawbacks of mill working, and the proprietors must put up with it, just as people had to put up with many things now without calling on a public body to smooth over their trials and difficulties. If the County Council undertook this work, it would be found that other milling interests, suffering in like manner during wet seasons, would be appealing also for assistance. While he had every sympathy with any firm whose business was interfered with by floods, he was not going to vote the money of the public to obviate it. He warned the Committee that if they took up this grievance it would be only the first of a series of cases for public assistance in the same way.

The Committee decided to take no action at present.

MESSRS. ED. BENNIS & CO., LTD., of 26, Victoria Street, S.W., have favoured us with a copy of their new booklet entitled "The Bennis Steam Table." It is a concise and handy publication, full of excellent information to those connected with the engineering trade.

RETIREMENT OF MR. JOHN DOBSON.

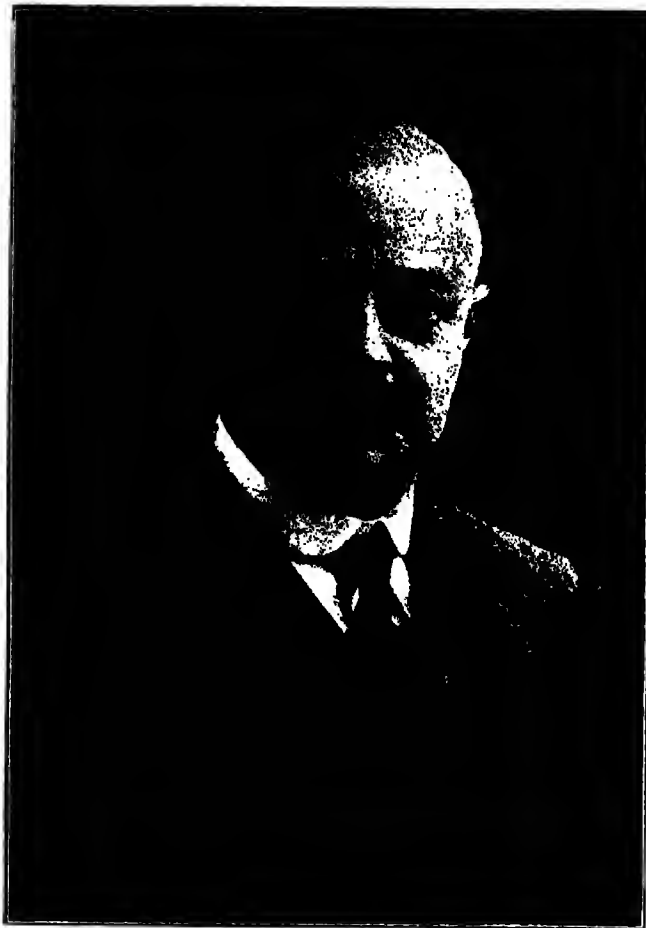
ONE of the most highly respected papermakers in the country, in the person of Mr. John Dobson, has retired after an active and successful business career. He was for many years associated with the direction of the well-known papermaking firm of Charles Marsden and Son, Ltd., and was an experienced papermaker. Throughout his career he displayed great energy and unflinching courtesy, while he always placed his advice and assistance at the disposal of the paper trade. Of a genial and happy dis-

position, he was very popular amongst all those who came in contact with him. Born at a farm house on the moor between Bradford and Keighley, his progenitors on his mother's side were a branch of the celebrated "Yorkshire Crossleys." He was educated at Darton Grammar School, near Barnsley, and commenced his business career as a railway clerk, in the service of the Lancashire and Yorkshire Railway, but he had already received an experience in collieries and also with a firm of brewers and spirit merchants at Wakefield. His entry into "Paperdom" was made on January 6, 1880, when he joined the staff of Chas. Marsden and Sons at the Calder Grove Paper Works, Wakefield, as junior clerk. Sixteen years later he was appointed works manager, when Mr. James Greig left Calder Grove Works to take over the management of the Dearne Mills, Barnsley. However, two years later he had to relinquish the management of the works owing to a breakdown in health, and devoted himself entirely to the commercial side of the business, acting as assistant to

the late Mr. James Marsden in the commercial management. In 1902 he also took the oversight of the London office of the firm at 27, Cannon Street, and since that time he has been a regular visitor to London on the firm's business. He removed to Barnsley in 1904, and took over charge of the Dearne Mills. A disastrous fire occurred at this mill in 1913, and the directors gave him sole charge of the settlement claim and also the dismantling and disposal of the salvage. He, too, had the oversight of the rebuilding and instalment of new machinery. On August 26, 1914, he had the pleasure of seeing the mills running again as a four-machine mill, and during the period of hostilities this mill, as in fact all the "Marsden" mills, carried on as usual. Thanks to his early railway training he was able to deal efficiently with railway matters, and consequently was appointed delegate for the trade to many railway conferences. In fact he was the first

representative of the paper trade to appear before the Railway Commission in 1895, on the appeal against the 5 per cent. increase in railway rates, and on that occasion was successful in getting every concession asked by his firm accepted and ratified by the Commission. For some time he served on the Northern Committee and also on the Committee of the Papermakers' Association in former days, and has also taken an active and leading part in the recent reconstruction of the Association. On behalf

of the Chamber of Commerce he has attended many deputations to Government and Railway conferences, in reference to the Mines Eight-Hour Bill, telephone charges, increase of railway rates, etc. In addition to his other activities Mr. Dobson served on the Grand Council and Executive of the Federation of British Industries. Amongst the paper trade fraternity he has done valuable work as a member of the various sections of employers organisation. Thus he acted as Chairman of the Railway and Transport Committee of the Papermakers' Association and of the "cap" section of the papermakers. He was also a member of the Joint Committee of Papermakers and Wholesale Stationers and Paper Merchants, and has taken a very prominent part in the meetings of this Committee during the last year. He has also been a member of the Executive of the Employers' Federation of Papermakers. On this organisation he has done valuable and useful work. Acting on the advice of a Harley Street specialist Mr. Dobson is curtailing a great amount of his usual activities,



MR. JOHN DOBSON.

and is retiring from the active management of his firm whilst retaining his seat on the boards of directors of Chas. Marsden and Sons, Ltd., Hall's Bay Sulphate Co., Ltd., etc. He has secured a beautiful spot in Rothesay, Isle of Bute, in which he hopes to spend the remainder of his life. Mr. Dobson's hobbies are gardening, cycling, golfing and photography, to which he hopes now to devote much of his time.

THE registration is announced of the Tiviotdale Paper Co., with a capital of £10,000 (£1). To take over the business of paper merchants, importers, exporters, agents and dealers in materials used in the manufacture of paper carried on by W. A. Grace, J. A. Haynes and H. R. Holland at 27, Lancashire Hill, Stockport, as the Tiviotdale Paper Co. Private, 27, Lancashire Hill, Stockport.

STATIONERS' SOCIAL SOCIETY.

ANNUAL AUTUMN DINNER.

THE ninth Annual Autumn Dinner of the Stationers' Social Society, was held on the 22nd ult. at the Throne Room, Holborn Restaurant. The chair was occupied by Mr. W. W. Horsburgh (President), who was supported by a representative gathering of stationers and a large number of guests. The Throne room, in which the dinner was held, provided an elaborate setting for the gathering.

Among those present we noticed:—Mr. W. W. Horsburgh, Mr. W. C. Hamilton, Mr. Henry King, Mr. G. H. Ralph, Mr. C. Newell, Mr. A. V. Prankerd, Mr. A. Clowes, Mr. Matt Henry, Mr. J. L. Greaves, Mr. F. L. Cayzer, Mr. W. E. Green, Mr. P. S. Porteous, Mr. C. W. Davidson, Mr. W. A. Kershaw, Mr. W. Goodall, Mr. W. Jago, Mr. J. C. Lake, Mr. J. Robertson, Mr. I. M. Robertson, Mr. S. T. Griffiths, Mr. J. S. Peacock, Mr. T. C. Dryer, Mr. J. H. Green, Mr. H. Raggard, Mr. H. E. Vardon, Mr. J. Atkins, Mr. W. Haxton, Mr. J. S. Bladgen, Mr. W. Bass, Mr. F. Roberts, Mr. A. E. Brown, Mr. A. Coon, Mr. S. Hughes, Mr. J. S. Barrow, Mr. C. Thomerson, Mr. H. Aguilar, Mr. W. Day, Mr. R. Inrell, Mr. E. J. Jisby, Mr. M. Hannah, Mr. A. Cameron, Mr. W. S. Muir, Mr. S. A. Donaldson, Mr. D. Muir, Mr. H. Dixon, Mr. H. C. Halls, Mr. T. Ringrose, Mr. S. L. Kind, Mr. A. Green, Mr. T. G. Stevenson, Mr. T. G. Larkin, Mr. E. Dixon, Mr. D. J. Hart, Mr. T. L. Falley, Mr. C. T. Maxwell, Mr. H. E. Cooper, Mr. B. Rust, Mr. H. Baldwin, Mr. P. Collier, Mr. R. G. Wedgwood, Mr. L. Stone, Mr. J. M. Taylor, Mr. A. T. Lewis, Mr. A. N. Seawood, Mr. I. H. Lowe, Mr. I. M. S. Johnstone, Mr. J. Steele, Mr. P. N. Kennett, Mr. D. Spalding, Mr. H. Savory, Mr. A. White, Mr. G. E. Oswick, Mr. A. C. Jennings, Mr. L. C. Lewsley, Mr. R. Johnstone, Mr. R. J. Fibberth, Mr. A. K. Tod, Mr. S. Stacey, Mr. I. J. Walden, Mr. A. T. Cook, Mr. Plenderluth, Mr. A. E. Fidler, Mr. W. M. Thom, Mr. A. F. Taylor, Mr. Wingfield, Mr. P. Atkins, Mr. J. Kelly, Mr. M. Livingstone, Mr. Dawson, Mr. S. T. Calder, Mr. Cairns, Mr. W. Lummon, Mr. S. C. Galloway, Mr. Martin, Mr. Knight, Mr. B. Williams, Mr. W. Wallis, Mr. Dnubar, Mr. P. Kingston, Mr. Ferguson, Mr. F. E. Williams, Mr. R. K. Mackenzie, Mr. A. E. Mist, Mr. G. H. Wilkinson, Mr. M. Ralph, Mr. J. C. Lennon, Mr. W. Heaton, Mr. W. J. Cummings, Mr. W. Willis, Mr. W. S. Chapman, Mr. W. H. Collins, Mr. H. Black, Mr. R. Ridley, Mr. G. H. Burton, Mr. R. B. Ferguson, Mr. W. Merchant, and Mr. H. Buck.

The loyal toast having been duly observed, Mr. P. S. Porteous submitted the toast of "The Visitors." He said it afforded him very great pleasure to submit this toast, and he extended a cordial welcome to the visitors on behalf of the Society. He hoped that after they had inspected thoroughly the happy gathering that was present that they would decide to throw in their lot with them. (Applause.) They wanted unity these days, and when one looked about and saw such selfishness, and he was sorry to say, but he had to say it, the seeds of revolution being sowed, it was time for them to cement their relationship and uplift their Society. (Hear, hear.) Once again he welcomed the visitors, and coupled with the toast the name of Mr. Sherrard—(applause)—who, he was pleased to say, was present. He was asked to mention that this gentleman (Mr. Sherrard) was about to celebrate his fiftieth birthday, and he hoped that he would remember this fact when replying. (Laughter and applause.)

In replying, Mr. Sherrard said that to be called upon to make a speech had been a great surprise to him, as he had come in the capacity of a guest and nothing else. However, he could say that he had been a member, off and on, of the Society for many years, and he was also a vice-president. He could remember the time when there was only 100 members, but now, happily, there was more.

He felt he had to say that he was one of those old persons of a retiring temperament—(laughter)—and it had been so all through his business career. He now proposed to make himself more known among his friends—(laughter)—because he feared he was not enough known at present. Although, after all he was only a humble person occupying a humble position. (Laughter.) From his fourteenth year he had been connected with Upper Thames Street, and as he looked around the room he could remember meeting some of those present in an old bin shop somewhere in that vicinity. (Loud laughter.)

The toast of "The Chairman" was given by Mr. G. H. Wilkinson, who said that it was his pleasure to submit the toast which would be taken unanimously by those present, and that would be to their president. He was their guiding spirit at a time when it was essential that new ideas should be made and then pushed forward for the benefit of the Society. (Hear, hear.) He had great pleasure in asking them to raise their glasses to the toast of "The Chairman."

The toast was heartily taken, amidst the singing of "For he's a jolly good fellow" and loud cheers.

Mr. Horsburgh, who rose amidst applause, said that he felt, firstly, he must thank Mr. Wilkinson for the kind way he submitted the toast, and everybody present for the enthusiastic manner in which it was taken. It was a tradition that these dinners should be of an informal character and homely spirit, and speech-making was to be in the background. In his reply he would like to make it quite clear that he was not going to divert from this tradition. One matter he would comment upon was the lamented death of Sir T. Vezey Strong, who was an old president of the Society and had been a member for 30 years. He felt sure that the news of his death came as a great regret to them all. The Society during the war had been in abeyance, and they were all now making a special effort to rejuvenate it. The results of their work could be judged with the successful gathering present. They had this year enrolled twice as many members as they had enrolled in any of the past two years. (Applause.) The committee, in order to broaden the interests of the Society, commenced a golf competition. The entries were not so numerous as they had hoped, but there were sufficient to make the competition a keen one and everybody had spent a most enjoyable day. It was hoped next year to hold two similar competitions, and a bowls tournament, seeing that so many members were interested in the latter game. (Applause.) The committee had decided to hold a social evening on November 22 at the Court and Livery of the Stationers' Company, the hall having been placed at their disposal—for a consideration, of course. (Laughter.) If everyone present came and brought along a lady, or as many ladies as they liked, it would be one of the most successful meetings organised. (Applause.) For their edification and their friends he thought they would all appreciate the opportunity of inspecting this historic hall. The price of the tickets was 5s. each, and they were, in his opinion, well worth 10s. 6d. each. Mr. Horsburgh then proceeded to present the Horsburgh Challenge Golf Cup to the winner, Mr. P. W. Kennett, who won it at the recent competition. He explained that the cup would be the property of the winner for a year. Mr. Savory had also presented a miniature replica which would be the property of Mr. Kennett.

Mr. Kennett, in a few appropriate words, acknowledged the gift and said that he won it more by luck than skill. (Laughter.) Next year he would, however, make another attempt to win it. (Applause.)

The Chairman then proposed the toasts of the Secretary (Mr. R. K. Mackenzie), and the Hon. Assistant Secretary (Mr. A. E. Mist), both gentlemen responding.

The usual high standard of entertainment supplied on these occasions was well maintained.

LENDRUM

LIMITED

**Paper Agents
and Merchants**

HOME & EXPORT

**3 & 4 St. Paul's Churchyard
LONDON, E.C.4**

Telegrams: "Instalment" Cent. London.
" Foreign—"Instalment" London.

Telephone:
Central 7101 & 7102.

MANCHESTER
15 Quay Street

Telephone: 818 Central, Manchester.
Telegrams: "Lenquay," Manchester.

GLASGOW
16 Falfield Street

Telephone: 1969 South, Glasgow.
Telegrams: "Lendrum," Glasgow.

Branch Offices:
MELBOURNE
YOKOHAMA

Agencies at:
Calcutta, Bombay, Madras,
Hong Kong, Shanghai,
New York.

OUR "STUFF-CHEST."

BY "THE AGITATOR."

MR. H. REEVE ANGEL, of Messrs. H. Reeve Angel & Co., is paying another visit to Finland, having left early last month.

WE are informed that the Bergougnan Tyre Co. have removed to their new offices at 14-15, Warwick Street, Regent Street, W.1.

THE son of Mr. Chas. King Smith, of Golden Valley Paper Mill, is taking a course in paper-making at P. Garnett and Son's paper mill at Otley.

MR. S. G. SMEED has been appointed secretary of the Newspaper Press Fund as from next January, in succession to Mr. Thornton Sharp, retired.

MR. GERALD ARTHUR DENNY (48), of Byford Court, Hereford, J.P., for the County, a director of Messrs. Thos. Owen and Co., Ltd., left £82,034.

MR. H. A. R. BUTLER has been elected a director of Messrs. Andrews & Co., Ltd., pulp merchants, Blackfriars House, New Bridge Street, E.C.4.

RETIRING eight years ago after 50 years' service with Messrs. Spicer Bros., Ltd., paper makers, Mr. T. S. White died recently at 4, Alexander Road, Hornsey, N., as the result of a stroke.

MR. ARTHUR SMALLEY, of Langlands, Cheadle, Cheshire, of Messrs. Edwin Butterworth & Co., Ltd., paper, rag, cotton waste, iron and hide and skin merchants, left £137,597 gross, £134,390 net.

It is reported that a paper mill in Wiltshire has been closed, and the Company have given the employees half pay.

MESSRS. ESCHER WYSS & Co., S.A., engineers, inform us that on and after November 1 their London address will be at 24, Grosvenor Gardens, S.W.1. Their telephone number will be Victoria 9120 and 9121.

VISCOUNT AND VISCOUNTESS BURNHAM, Alderman Sir Vansittart Bowater, Bt., and Alderman Sir Charles Hanson, Bt., M.P., were honoured with invitations to the Royal Reception at St. James's Palace.

THE engagement is announced between Capt. G. F. Thomas-Peter, of Chyverton, Callestick, Cornwall, and Ruth Mary, eldest daughter of Mr. and Mrs. James R. Crompton, of Greenhayes, Banstead, Surrey.

MR. H. MARTIN, assistant chemist at the Sittingbourne Paper Mills, suddenly disappeared from his home recently. His disappearance has caused a sensation in local circles owing to the fact that he was shortly to be married.

AN employee at Messrs. Wrigley's Paper Mills, Heap Bridge, named J. R. Smith, was recently admitted into the Bury Infirmary with his right knee sprained as the result of a fall whilst following his employment as firebeater.

SOANE'S WASTE PAPER WHARF, Blackfriars Bridge, where some thousands of tons of waste paper are stored, was the scene of a fire at mid-day recently. Fortunately, a workman on the premises was able to telephone an early

alarm to the fire brigade. A number of fire engines speedily arrived, and were able to get the fire under control in about half an hour.

THE members of the Ramsbottom branch of the Union of Printing and Paper Workers presented their secretary, Mr. J. R. Leonard, with a handsome ebony walking stick, suitably inscribed, and a wallet filled with Treasury notes to celebrate his marriage, which took place recently. There was a large and representative gathering present, and a striking testimony was paid to the abilities of Mr. Leonard.

LORD MORRIS, late Prime Minister of Newfoundland, in a lecture at Gravesend, said that ten years ago Lord Northcliffe and his brothers opened at Grand Falls a large paper and pulp mills, called the Anglo-Newfoundland Development Co. They were the finest mills in the world, and were worth 10 million dollars. The forests were of spruce, and if they were cut there for the next hundred years they would not be exhausted.

MR. T. H. M. COXON, an engineer at the Sittingbourne Paper Mills, has been appointed a Justice of the Peace for Kent. He has been employed at these mills for many years, and is a level-headed man, who views industrial questions with an impartial mind—a Labour representative of the right type. He is the second Labour magistrate appointed to the Sittingbourne Bench.

ACCORDING to returns supplied by employers, 13,065 workmen were employed in the paper trade last month. This is an increase of 0.7 per cent. over the preceding month, and an increase of 16.9 per cent. over the corresponding period of last year. The wages paid amounted to £42,003, an increase of 4.4 per cent. over August of this year, and 42.9 per cent. over the corresponding period last year.

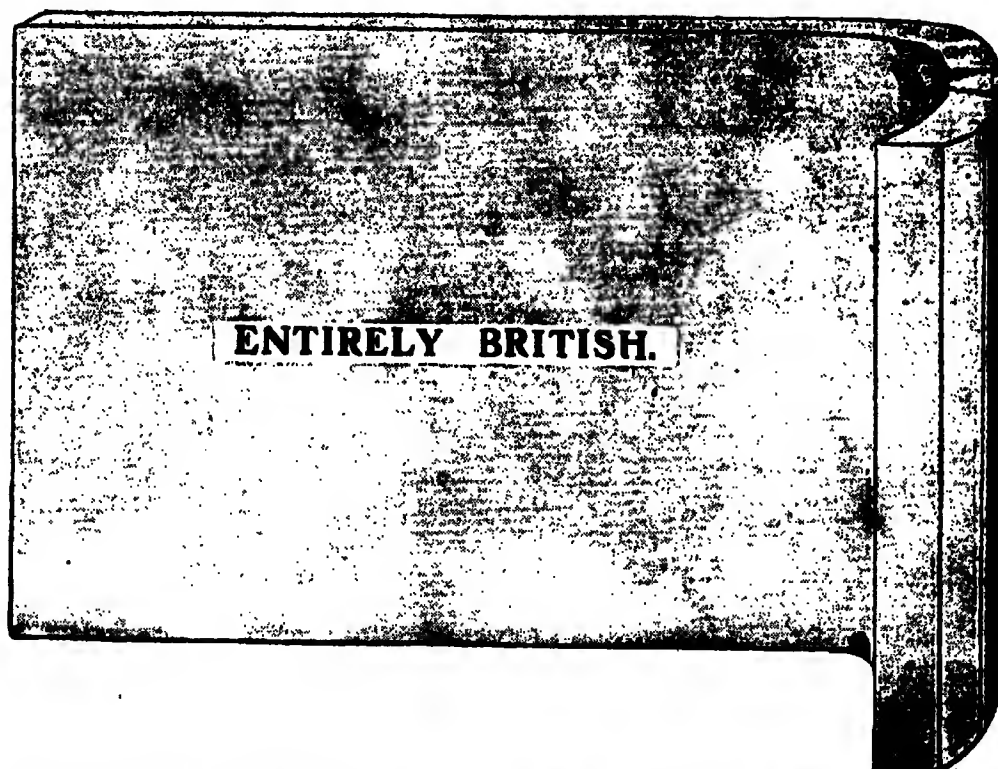
SPECIMENS of German-made paper clothes are among the newer exhibits now to be seen at the Imperial War Museum and Victory Exhibition at the Crystal Palace. The exhibits include striped grey trousers which, it is stated, "have the exact appearance of the nether garments worn by the average well-dressed man," and a paper blouse trimmed with blue insertions. There are also night-dresses, tablecloths, and other articles.

AMONG the candidates spoken of in connection with the vacancy occasioned by the elevation of Mr. W. R. Pryke to the Aldermanic Bench, following the death of the Right Hon. Sir T. Vezev Strong, are, states the *City Press*, Mr. M. N. Jones, of the firm of W. M. Jones and Son, paper merchants, 12, Bread Street Hill and Mr. Fred Whittingham, of the firm of T. Whittingham and Co., printers and stationers, 10 and 11, Little Trinity Lane.

THE death took place at Montreal, Canada, of Mr. A. G. Campion, formerly of Sittingbourne, who for a number of years was connected with Messrs. Edward Lloyd, Ltd. About twenty years ago the deceased gentleman left this country for Sturgeon Falls, Canada, where he acted in the capacity of agent for Edward Lloyd. Subsequently he set up a business of his own in Montreal, where he had lived since. He leaves a widow and one daughter to mourn his loss, to whom much sympathy is felt.

AT the meeting of the Stationers' Court recently, one apprentice was bound; Mr. E. S. New and Mr. F. C. Reeve were admitted to the Freedom by servitude; and the following were admitted to the Freedom and Livery; Mr. L. C. Langley (Euston Buildings), Mr. R. Spicer,

MITCHELL COUCH RO



THE LIFE OF THIS JACKET IS UNSURPASSED.

WORKING ON MACHINES NOT ONLY IN THIS COUNTRY

MITCHELL BROTHERS' BRANCH

of

MITCHELLS, ASHWORTH, STANSFIELD & Co., Ltd.,

The late R. J. C. Mitchell's Patent.

ELL'S JACKETS

Applied with signal success in the manufacture of
ALL CLASSES OF PAPER and adopted by the
largest Paper Mills throughout the Universe.



Mitchell's Jacket is still "running" and holds all records.

ALL PARTS OF THE CONTINENT AND THE WORLD OVER.

ALBERT WORKS, WATERFOOT, Nr. MANCHESTER.

LONDON WAREHOUSE 23 & 24, Old Bailey, E.C.
MANCHESTER WAREHOUSE (Home Trade) .. 45, Newton Street, Manchester.

Telephone :
30 WATERFOOT.

Telegraphic Address :
"MITCHELL'S, WATERFOOT."

PAPER MAKING MACHINERY
of EVERY DESCRIPTION.



TELEGRAMS:

"MILNE, EDINBURGH."

CODES:

A.B.C. 4TH & 5TH EDITIONS.

MARCONI INTERNATIONAL.

M.C., M.A., and Mr. I. D. Spicer, D.S.O., M.C., B.A. (Upper Thames Street), Mr. R. S. Caslon and Mr. C. A. Caslon (Chiswell Street), Mr. B. H. Blackwell (Oxford), and Mr. G. Brimley Bowes, M.A., T.D. (Cambridge).

MR. GEORGE WILLIAM COOKSON, of Belgrave Avenue, Rusholme, Manchester, paper stock merchant, who died on March 14 last, left estate of the gross value of £5,385, with net personalty £4,837. The testator left a life annuity of £78 to his wife, a life annuity of £52 to his granddaughter, Marjory Anne Kerfoot, and all other property for a George William Cookson's Fund for poor children to provide poor children of Stockport with an annual summer treat or outing in the surrounding country districts.

AN outbreak of fire occurred on the premises of Thomas Briggs, Ltd., Manchester, on the 7th ult., resulting in damage amounting to about £6,000. A large portion of the machinery, warehouse and offices were gutted. At great personal risk, and when the flames were shooting through the roofs and windows, a plucky fireman forced his way into the office and brought out the books and principal papers of the company. A fire also occurred at this mill in May last, when extensive damage was done.

A CORRESPONDENT of the *Yorkshire Post* states: "I learn of a big scheme by which the supply of newsprint, the paper on which newspapers are printed, is to be insured at such a cheap rate that the price of newspapers themselves will probably be reduced. But not for a couple of years or so. This is the result of a gigantic scheme of development which is being arranged in Canada in the wood pulp industry. Latest advices received in London state that during the past week yet another company has been registered with a capitalisation of nearly £4,500,000 for the production of paper and pulp."

THE death occurred at Otley (Yorks.) on October 1 of Mr. David Fulton, who throughout his life of 58 years had been closely associated with the paper-making industry in both Lancashire and Yorkshire. For the past eleven years Mr. Fulton had charge of a department at the paper-making mills of Messrs. P. Garnett & Co., at Wharfedale, Otley, previous to which he was employed at Bury and other towns in Lancashire. He was at work as usual up to 9.30 on Thursday night. Soon after leaving he was taken ill, and died within a quarter of an hour from cerebral hemorrhage. He leaves a widow and grown-up daughter.

AN interesting presentation took place at the Darwen mills of the Wallpaper Manufacturing Co. on September 30, when Mr. John Berry, the cashier, was the recipient of a smoker's cabinet on the occasion of his retirement from the firm after fifty years' service. Mr. Shorroek, the manager, paid a tribute to Mr. Berry, and said that he was respected by all. Mr. R. Cooper, Mr. J. Lyons, Mr. J. Anderton, and Mr. J. Shuttleworth also spoke. Mr. Berry, in acknowledging the gift from Mr. Shorroek, thanked everybody for the kind words said about him, and in a few appropriate words referred to his happy association with the firm.

THE committee of the Stationers' and Paper Manufacturers' Provident Society have for some time past desired to increase the annual sums payable to a member or widow of members to meet the constantly rising cost of living, and have now completed the necessary formalities and obtained the requisite official sanction enabling them to make an additional payment up to £15 15s. per annum. This, to several annuitants, will be a very welcome benefit, some having no income beyond that

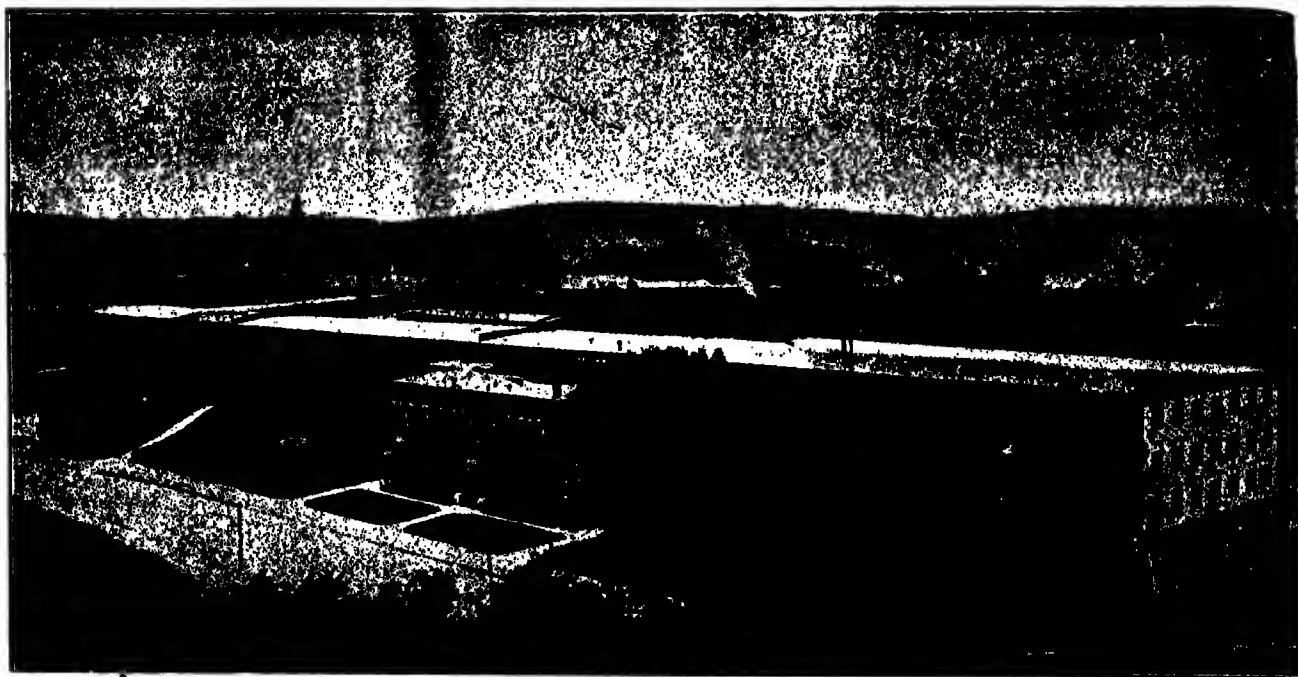
received from the Society. The committee would be glad if more members of the trade could make it possible to support the Society by becoming members or subscribers.

THE Germans are evidently bent on getting as large a quantity of dyes into this country as they possibly can before legislative steps are taken to restrict imports. A measure with this object will come before Parliament in the autumn. Returns show that the monthly imported dye-stuffs increased from 9,511 cwts. in January to 93,742 in August, while intermediate products increased from 1,022 cwts. to 7,050. Although the figures do not show the source, the bulk comes from Germany, though Switzerland and America have doubtless contributed. The present imports are stated to be in excess of the demand, but the increase is likely to be maintained until restrictive measures are applied.

THE following firms have been successful in obtaining Government contracts for paper supplies. Stationery office:—A. Cowan & Sons, Ltd., Penicuik, N.B.; Darwen Paper Mill Co., Ltd., Darwen, Lancs.; Esco, Ltd., London; J. Wild & Sons, Radcliffe, Lancs. Post Office:—Jas. Cropper & Co., Ltd., Kendal; Reed & Smith, Ltd., Silvertown, Cullompton. Crown Agents for the Colonies:—Messrs. C. Morgan & Co., London, E.C.; Educational Supply Association, London, E.C.; Messrs. C. Baker & Co., London, E.C.; Messrs. T. H. Saunders & Co., London, E.C.; Messrs. R. Herring & Co., London, E.C.; Messrs. Leopard and Smith, London, W.C.; Messrs. R. Craig & Son, Airdrie; Messrs. J. Dickinson & Co., London, E.C.; Messrs. Dunster and Wakefield, London, E.C.; Messrs. A. Cowan & Sons, London, E.C.

THERE was a dramatic sequel to the recent fire at the Darwen Paper Mills, at Darwen police court recently, when an ex-soldier named Henry Darlington was charged, on his own confession, with having set fire to the works. It will be recalled that the fire resulted in extensive damage, which was valued at £250,000. The prisoner voluntarily confessed the crime to a detective in the street saying "he would like to get the thing off his mind." In the police station he explained that towards the end of August, after tramping the country for months looking for work, he arrived at Darwen. About two o'clock in the morning, according to prisoner's story, he went inside the factory through a window. He struck several matches and set fire to some paper which burnt rapidly. Afterwards he noticed that the mill was in flames. Prisoner was remanded for a week.

AGAIN we have to record the death of one of America's pioneer paper makers who hailed from the "old country." This time it is Mr. Samuel Dickinson, senr., who died at the home of his son, Mr. Thos. H. Dickinson, Lisbon Falls, Maine. He was born at Kendal, Westmorland, on July 1, 1837, and at the age of 14 years he commenced his apprenticeship to paper-making at the mills of Messrs. Cropper and Co., Burnside, where he remained five years. In 1857 he went to America, first settling at Paterson, N.J. Mr. Dickinson, who was one of the oldest paper-makers in the country, had been connected with many mills. He retired in 1907. He is survived by four sons, Charles R., who is associated with the Pejepscot Paper Company, Pejepscot, Me.; Thomas H. and Samuel, Junr., employed at the Lisbon Falls mill, and William O., superintendent of the Donnacona Paper Company, Donnacona, Canada; two daughters, Mrs. A. W. Keirstead, of Wiscasset, Me., and Mrs. Harry Alwood, of Lisbon Falls, Me.; seven grandchildren and two great grand-children. His burial took place at the Hillside Cemetery, Lisbon Falls, Me.



F. C. HUYCK & SONS

Manufacturers of Woollen

FELTS AND JACKETS

for Paper Machines

ALBANY, N.Y., U.S.A.

Inquiries and orders requested through the following agents,
who will furnish samples, prices and full information :

FOX, STOCKELL & CO., 61, St. Mary Axe, London, E.C.3.

Agents for United Kingdom, Holland, Belgium, France and Spain.

LORENTZEN & WETTRE, Christiania, Norway.

Agents for Norway, Finland, Russia and Denmark.

LORENTZEN & WETTRES MASKINAFAR, Stockholm, Sweden.

Agents for Sweden.

SOCIETA COMMERCIALE ITALO-SCANDINAVA, Genoa, Italy.

Agents for Italy

THE TOYO SHOKWAI, Tokyo, Japan.

Agents for Japan and China.

PARSONS TRADING CO., 17, Battery Place, New York, N.Y.

Agents for South America, Australia and India.

Obituary.

THE LATE SIR T. VEZEY STRONG.

As was announced in our last issue, the death took place on the 3rd ult. of Sir T. Vezey Strong, K.C.V.O., K.B.E., an ex-Lord Mayor of London, and a member of the Stationers' Company. In business the deceased gentleman was the head of the firm of Messrs. Strong, Hanbury and Co., wholesale paper merchants, in Upper Thames Street, and became prominent in public or municipal matters in the year 1897, when, on the death of Sir George Tyler, he was elected Alderman of Queenhithe Ward in the City.

He displayed so much interest in magisterial duties that he was selected by his colleagues as chairman of the Licensing Justices, and discharged his functions in that respect with ability and discretion. Those who predicted that, being a lifelong abstainer, he would show animosity to existing or future license-holders, had to admit their mistake, for no one could have been a fairer or a more impartial chairman. While Lord Mayor he completely refuted his own strong views as a temperance reformer, and at his banquets and entertainments there was no diminution in either the quantity or the quality of the wines and other beverages ordinarily supplied to the guests, though the host and hostess were of course abstainers. Sir Vezey served the office of Sheriff of the City in the mayoralty of Sir John Ponnal in 1904-5, when the late King of Portugal, and afterwards King of Spain, visited the City, and Sir Vezey Strong, with his colleague, received the honour of knighthood. He became Lord Mayor in 1910-11, and the leaving event of his mayoralty was the coronation of King George, when he took part in the services at Westminster Abbey, carrying the City's sceptre in the Royal Pageant. The deceased gentleman was officially present at the unveiling of the Queen Victoria Memorial at Buckingham Palace, at which the German Emperor was present. He was made a Privy Councillor at the time of the Coronation, and was also created a K.C.V.O. before leaving office. Sir Vezey tried to save Crosby Hall for the City, and got promises of £60,000 towards the cost, but that was not enough, and the famous old hall disappeared from Bishopsgate, and was subsequently re-erected at Chelsea, off the Embankment. He was a member of the Stationers' and Plumbers' Companies, and served in the Mastership of the former when it celebrated the 500th anniversary of its existence. Deceased took a great interest in the work of the London Temperance Hospital, and became its chairman. He was also chairman of the Hospital Saturday Fund, the Visiting Justices at Holloway, and the King Edward Memorial Fund. During the war he was the chairman of the Recruiting Tribunal in the City, and for his services in that respect he was made K.B.E. He was a director of the United Kingdom Temperance and General Provident Institution, and hon. colonel of the 1st London Brigade, Royal Field Artillery. He married in 1900 Lillie, daughter of the late Mr. James Hartnoll, who was a pioneer in the erection of model dwelling houses. They had no children.

INTERMENT AND MEMORIAL SERVICE.

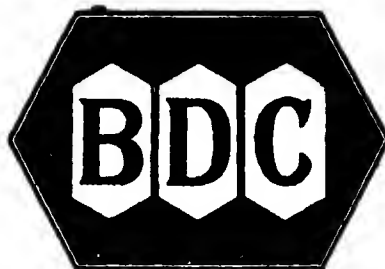
The funeral took place on the 6th ult. The first part of the service took place in the private chapel at Wrotham Park, and the interment followed at Potters Bar Cemetery. Lady Strong and Mr. Harold Strong were the mourners, and representatives of the various organisations with which the deceased was connected were present to pay the last tribute of respect. The funeral was of a private character, with the result that a large number of friends and the general public refrained from attending. A memorial service was held on the 7th ult. at the church of St. Lawrence Jewry. Amongst a large congregation

we noticed the Lord Mayor, the Sheriffs, Viscount Burnham, Alderman Sir Alfred Newton, Bt., Alderman Sir James Treolar, Bt., Alderman Sir James Bell, Bt., Alderman Sir David Burnett, Bt., Alderman Sir Vansittart Bowater, Alderman Sir Charles Hanson, Bt., M.P., The Right Hon. Sir Horace Marshall, K.C.V.O., Sir John Baddeley, Sir Francis Green, Bt., C.C., Sir Rowland Blades, M.P., Mr. G. Rooke Collingridge, Mr. C. J. Drummond, Mr. Christopher, Mr. R. T. Rivington, M.A., LL.B., Sir Harry F. Hepburn, C.C., Mr. J. L. Greaves and Mr. J. A. Cotton. The service was conducted by the Rector, the Rev. W. P. Besley. In an address from the pulpit, the Dean of St. Paul's said that they had met there to pay a last honour to a great citizen of London, to a man who in the course of his life held the confidence, admiration and affection of all who knew him. During the nine years in which he (the Dean) had lived in the City it had been his privilege to enjoy the friendship of the line of illustrious men who had filled the office of Lord Mayor. He had admired, as no one could help doing, the manner in which they had discharged the duties of that high office. Their dignity, their great business capacity, their entire devotion to duty and the manner in which they had thrown themselves into the spirit of every good cause that needed help, as well as their constant and gracious hospitality, were characteristic of one and all. He thought he could assert that no one had discharged his duties with more success than had the late Sir Vezey Strong. In spite of his failing health he held manfully to his duties as long as it was possible for him to do so. Now he had been taken away full of years and honour, and had passed, as they trusted, to "the rest that remaineth for the people of God." He had left a fine record and example to those who came after him. Holding as he did a high position in both business and municipal life he had through difficult times upheld the high standard of honour, integrity and high-mindedness so necessary if we were to restore and maintain the prosperity of the country. On these qualities was built the prosperity of any country or society. They thanked God for the testimony of an honourable life, and prayed that there would never be wanting a line of men in this City who would carry on the tradition of those high qualities in the service in which he lived and died.

THE LATE MR. WM. DEDRICK.

It is with great regret we announce the death of Mr. Wm. Dedrick, managing director of Messrs. C. Townsend Hook and Co., Ltd., which took place on the 18th inst., at his home in Blackheath. The deceased was 63 years of age, and had been connected with the Snodland Paper Mills for something like forty-two years. He was a recognised authority on pulp and paper, and his decease will be felt by a very wide circle of friends in the trade. The interment took place on the 21st inst. at Charlton Cemetery, which was preceded by a service at St. Michael's Church, Blackheath. The principal mourners were the widow, Mr. and Mrs. W. E. Dedrick (son and daughter-in-law), Mr. and Mrs. H. A. Pearson (son-in-law and daughter), and Miss C. B. Williams. Among those present at the graveside were Mr. F. S. Dedrick, Mr. T. H. Dedrick, Capt. J. Cordy Baxter, Mr. H. R. Smith, Mr. Robert Erikson, Mr. H. A. R. Butler, Mr. A. V. Hunt, Mr. E. Bidwell, Mr. Lewis Pearson, and a large number of representatives of the paper trade. A pleasing feature was the presence of a considerable number of his oldest employees, most of whom had been associated with the deceased during the whole of his association with the mill. There were a large number of floral tributes, including a beautiful wreath of autumn tints, contributed to by every employee, and another from Miss Maule Hook, the sole surviving partner of his original firm.

BRITISH DYESTUFFS CORPORATION LIMITED



TRADE-MARK

**Manufacturers of
Coal Tar Colours
and
Intermediate Products**

**Sales Office :
70, SPRING GARDENS, MANCHESTER**

SAD DEATH OF LIEUTENANT W. J. ANDERSON.

LIEUT. W. J. ANDERSON, son of Mr. and Mrs. Hugh Anderson, of Bury and St. Annes-on-the-Sea, was accidentally shot by a comrade at Dublin on Monday, October 11. Mr. and Mrs. Anderson journeyed to Dublin on the following Tuesday and brought the remains of the deceased officer to Bury, where he was interred in the family vault on October 16.

The late Mr. Anderson was articled with the firm of Messrs. Boote and Edgar, solicitors, under Mr. Edgar and afterwards went into partnership with Mr. Newell, of Manchester. They both joined H.M. Forces immediately war was declared, and Mr. Newell was killed during the early part. Mr. Anderson fought throughout the war in the First Ninth Royal Scots ("Dandy Ninth") and was connected with the famous 51st Division. After demobilisation he could not settle down to the legal profession and eventually went to Dublin as an officer cadet attached to the R.I.C. The deceased officer was a great favourite in Dublin and the tragic occurrence caused quite a gloom throughout the barracks.

The funeral was a private one, but many beautiful wreaths were sent from Ireland and from friends on this side of the Channel.

The following were amongst those who sent floral tributes: Father, mother and Nora; George and Bee (brother and sister-in-law); Harry and Ethel (brother and sister-in-law); Nell and Billy (sister and brother-in-law); Hugh and Jenny (brother and sister-in-law); Tom and Marie (brother-in-law and sister); Stuart and Althea (brother and sister-in-law); his loving niece, Dorothy; Mr. and Mrs. Brown; directors, Bury Paper Making Co., Ltd.; Mrs. James Hill, Mr. and Mrs. F. Hamer, Mr. E. Lambert, Mr. S. W. Ramsbottom, Mr. and Mrs. J. Seddon, the Sleight family, a few friends, Stanley Club, Mr. George Tinlin, S. Trotsky, Mr. and Mrs. T. P. Wahnsley, Mr. and Mrs. Wilson, Major-General H. H. Tudor and Staff, Dublin, R. E. W.O's. and Sergeants' Mess, Beggars Bush Barracks, Capt. W. C. Whittaker, Royal Army Ordnance Corps; N.C.O.'s and Sappers, R.E., Beggars Bush Barracks; Comrades of the Depot Company, Beggars Bush Barracks; E. Company, Aux. Div. R.I.C.; H.Q. Aux. Div. R.I.C., and officers and cadets F. Co., R.I.C.



LIEUT. W. J. ANDERSON.

wife, and after a search the body was found in a neighbouring stream. The deceased lady was 51 years of age.

An inquest was held at Oxford on the 4th ult. at which Mr. Clapperton gave evidence of identification. He said that when he last saw his wife she appeared to be quite cheerful. On his return home after visiting some friends he missed her, and commenced a search. He found that the keys of the boathouse had been taken away, so he proceeded to this scene, and there found his wife's hat. The police were summoned, and later the body was found at a spot about 50 yards from the boathouse. His wife had been lately suffering from insomnia.

The Coroner: No letter or document has been found to throw any light on the occurrence?—No.

Was there anything else except the state of her health to cause your wife any worry?—No.

And she never threatened to take her life or showed any suicidal tendencies?—No.

The housemaid was then called, and said that when last she saw the deceased lady alive she appeared to be in her usual state. So far as she knew, deceased had no worries or anxieties.

Dr. Freehorn said that he had known the deceased as a patient for about twenty years. During the last few years she had become altered in character, and gradually become more reserved and more difficult to deal with as a patient. She was occasionally inclined to be a little hysterical, with a disordered nervous system. He was frequently in the house as a doctor, and friend, and nothing recently was causing her any worry or anxiety. The change of life period might have caused her to act on some sudden impulse, and have caused fits or dizziness.

The Coroner: She might have turned giddy on the bank and fallen in?—Very probably.

Mr. Clapperton was then recalled, and said that his wife was in the habit of taking walks in the evening.

Evidence as to the discovery of the body was given by Mr. Horace Fisher and P.C. Leach.

The jury returned a verdict of "Found drowned."

TRAGIC DEATH OF MRS. CLAPPERTON

THE sympathy of all members of the paper trade will be extended to Mr. Geo. Clapperton, managing director of the Sandford Paper Mills, in the tragic death of Mrs. Lyla Piper Clapperton. It transpires that Mr. Clapperton, on his return home after visiting some friends, missed his

In a reference to the sale of some China clay works at Ivybridge, at the Piccadilly sale-room of Messrs. Goldard and Smith, by order of the Chancery Division, as a going concern, the *Times* said:—"There are eight miles of private railway lines of 3 ft. gauge from Cantrell to Redlake, across Dartmoor. Part of the property is freehold, and part leasehold from the Duchy of Cornwall. The lease is at £500 a year, merging into the following royalties on each ton won: China stone, 2s. 6d.; china or potter's clay, 1s. 9d.; fire clay, 1s.; (and won and sold) mica, 9d.; sand or gravel, 4d.; and granite, 3d. China clay is conveyed in liquid form from Redlake to Cantrell, eight miles, through two 9-in. pipes, which fall from the concentrators to the clay dries, as they are called, on a gradient of over 1,000 ft."

THOS. HARDMAN & SONS

LIMITED.

**FERNHILL MILLS,
Bury, LANCASHIRE.**

ESTABLISHED 1836.

London Office : FLEET HOUSE,
17 FARRINGDON AVENUE, E.C.

Telegrams { " Felts, Bury."
 { " Unbend, London."

Telephones { No. 41 Bury.
 { No. 82 Holborn

**FELTS FOR
FAST RUNNING
A SPECIALITY.**

ALSO MAKERS OF
EVERY DESCRIPTION OF
:: CLOTHS ::
Used for Machinery Purposes.

**COUCH ROLL COVERS,
SECOND PRESS FELTS,
WET AND DRY FELTS,
BAG FLANNELS, &c., &c.**

**BLANKETS, LAPPINGS, &c., :: FOR PAPER STAINERS, ::
PRINTERS AND LITHOGRAPHERS.**

A ST. BRIDE'S LODGE INSTALLATION.

At the annual meeting of the St. Bride Lodge (No. 2,817) of Freemasons, at the Café Monico, recently, Bro. Sydney Herbert Caslon, one of the managing directors of the well-known Caslon's type-founding firm, was installed as Worshipful Master. Bro. H. C. Bolton, the outgoing W.M., presided, and was supported by numerous Past Masters and Grand Officers Bros. Sir Alfred Robbins (President of the Board of General Purposes), and Sir J. Somers Vine, P.G.D. Among the large number of visitors present were Bros. A. H. Caslon, P.G.S., H. P. White, L.R., Col. S. Wishart, L.R. (Grand Treasurer-designate of England and Sheriff-elect of the City of London), J. L. Greaves, W.M. 1928, and E. A. Humphreys.

The installation ceremony having been impressively conducted, the following were appointed the Officers:—
Bros. G. F. Wilbraham, S.W.,
G. L. Reveirs, J.W., Sir
G. R. Blades, P.G.D. Treas.,
C. J. Drummond, P.A.G.D.C.
Sec., Geo. W. Jones, P.G.D.,
P.P.G.W. Herts. D.C., A. V.
Hunt, L.R. Almoner, W. J.
Starkie, S.D., F. H. Stollard,
J.D., F. J. Day, I.G., E. S.
Lendrum, P.M., and O. Lehmann, Stewards, W. Wright, P.P.G.O. Middx., Organist, J. L. Smith, Tyler.

At the close of the Lodge, banquet was served, the Worshipful Master presiding. After submitting the loyal toasts, he proposed a special toast in honour of the President of the Board of General Purposes. Sir Alfred Robbins, in reply, said he was glad once more to be in the St. Bride Lodge. He went to Fleet Street forty years ago and had worked there ever since, having developed a love for St. Bride and all its associations, including the St. Bride Lodge. The name of Caslon went back 200 years, not quite so long as Grand Lodge, which could boast of 203 years. He rejoiced to think that all this time, through the vicissitudes of all associations with London and throughout the world, both Institutions had prospered, as typified by the Worshipful Master.

Bro. Rt. Hon. G. H. Roberts presented Bro. Bolton with a Past Master's collar and badge, subscribed for by the ten Initiates of his year of office, in grateful appreciation of his kindness to them.

The Immediate Past Master, in reply, thanked the Lodge for the gift of a Past Master's jewel, and the Initiates for the collar and badge. Both gifts he should always value and treasure. The Secretary accorded the Visitors a hearty welcome. Response was made by Bros. Col. S. Wishart, L.R. (Sheriff-elect of the City of London and Grand Treasurer-designate of England), Shirl Mussell, P.P.S.G.D. Middx., L.R., gave interesting details of the Masonic Million Memorial scheme, and Bro. J. L. Greaves,

who spoke of the power of Freemasonry which had been revealed to him during four months' travel across the Atlantic.

THE SWEDISH PAPER TRADE.

REDUCED PRODUCTION AND PRICES.

The Berlin correspondent of the Exchange Telegraph Company states that the "Svensk Handelstidning" reports that several paper mills in the Gothenburg district have ceased work or cut down production owing to lack of foreign orders. The manufacturers, however, decided

at a recent meeting not to cut prices as the majority of mills were secured with work for months ahead, and an improvement in the foreign market was expected. The "Svensk Handelstidning" alleges that English customers, with large stocks in hand, were purposely holding back in order to force Sweden to cut her prices.

With a view to ascertaining the correctness of the above report we communicated by letter with one of our Swedish friends, who was good enough to reply by cablegram as follows from Stockholm on the 26th ult:—

"Report correct. Production reduced one-third. Next meeting Kristiania 28-29. Generally believed reduction prices 20% be decided. Kindest regards."



MR. SYDNEY H. CASLON.

At a meeting of the Paper Box Trade Board (Great Britain) held on Thursday, October 14, 1920, it was resolved to vary and fix minimum rates of wages for male and female workers as set out in the notices of proposal issued by the Board and dated May 29, 1920, and August 4, 1920, respectively, subject to an amendment of the overtime provisions in each case. The Board has sent notification of the minimum rates as varied and fixed to the Minister of Labour and has requested the Minister to make an Order confirming the minimum rates. The minimum rates as varied and fixed will not, however, become operative unless and until made effective by Order of the Minister of Labour, due notice of which will be given if and when such Order is made.

The registration is announced of the Unander-Scharin and Co., Ltd., with a capital of £40,000 (10,000 6 per cent. cumulative preference of £1 and 6,000 £5 ordinary), to carry on business as agents for wood-pulp manufacturers in Sweden, Norway and elsewhere. Private. 468, Mansion House Chambers, 20, Bucklersbury, E.C.

Type 'B' Patent Portable Troughed Conveyors



These Machines are at work in almost every trade. They immediately cut your labour costs in half, at the same time handle more than four times the amount of material previously handled.

Our Type "B" Portable Trough Conveyor, shown in the above illustration, is designed to handle a variety of material horizontally or at a slight incline. Material can be placed on the conveyor at any point between the feed and discharge end, or we can furnish a feed hopper at the receiving end. The machine is of light construction to retain portability. The closely spaced troughing idlers provide a strong belt support to carry heavy pieces weighing up to 200 lbs.

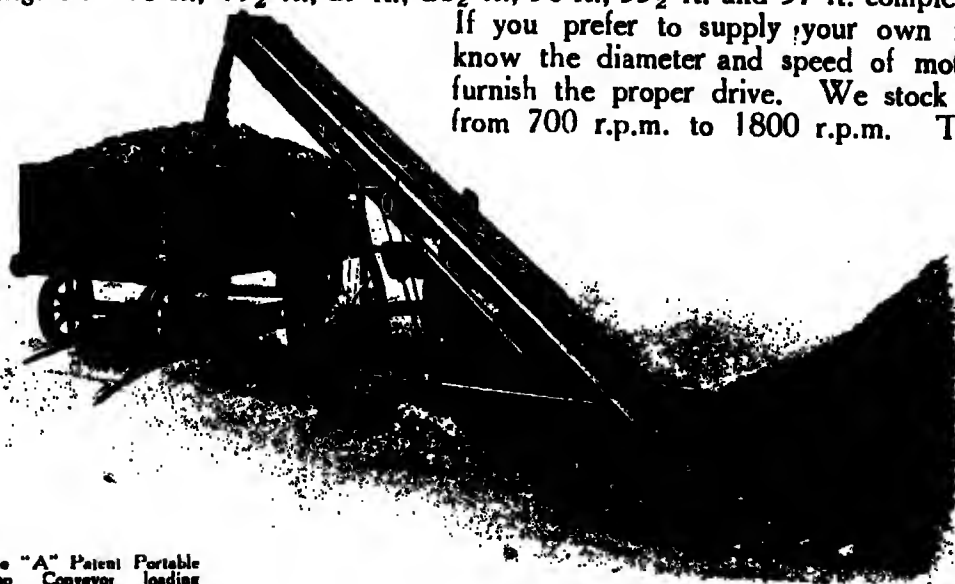
We can furnish TYPE "B" CONVEYORS with 16" or 18" wide belts in the following lengths:—16 ft., 19½ ft., 23 ft., 26½ ft., 30 ft., 33½ ft. and 37 ft. complete with electric motor.

If you prefer to supply your own motor, we require to know the diameter and speed of motor shaft in order to furnish the proper drive. We stock drives to suit motors from 700 r.p.m. to 1800 r.p.m. These Conveyors can

also be arranged for petrol drive.

By working one 'B' Type in conjunction with an 'A' Type a most flexible conveying system may be arranged.

Let us make arrangements for you to see these conveyors at work.



Type "A" Patent Portable
coop Conveyor loading
from pile into truck.

Sole Selling Agents—

Established 1790

C. H. JOHNSON & SONS, LIMITED

Telephone:
CHEETHAM HILL

Smedley Road, MANCHESTER

Telegrams:
'IRKDALE Manchester'

COMMERCIAL MOTOR EXHIBITION.

BENEFITTING by the experience gained during the war, opportunities have been taken advantage of by commercial motor manufacturers in evolving the production of post-war road vehicles into what can best be described as "a fine art." Visitors at the above show, which was held at the Olympia last month, were amazed at the wonderful progress made in the production of these vehicles. There were motor coaches fitted and furnished in a most luxurious style, and capable of carrying as many as 45 passengers. In these were dining tables, card tables, and practically everything which could possibly be added in order to ensure comfort during the journey.

Commercial vehicles, both electric and petrol driven, have also attained a high standard of perfection, and lorries with a carrying capacity of five to eight tons, were offered for sale at a price ranging about the figure of £2,000.

One of the most striking displays at the exhibition was that of Straker-Squire, Ltd. There were several vehicles on show in the stand, and one of the most interesting to our readers would be the Straker-Squire "A" type. One of the outstanding features of this vehicle is the new overhead-valve motor. Designed and built throughout in the firm's own works, it represents the results of 18 years' experience with internal combustion engines. The cylinder bore is 4½ ins., and the piston stroke 6½ ins., which gives 65 h.p. on the brake, the power curve showing the standard each motor has to reach before being passed. The same features which enable such a large force to be obtained from an engine of moderate dimensions makes for great fuel economy. Out of this vehicle 70 ton-miles per gallon of fuel have been obtained, with full load doing 7 to 7½ miles for gallon on the straightaway runs, while unladen, as much as 10 miles per gallon has been secured. One gallon of engine oil is sufficient for 500 miles.

A gully wagon (petrol driven) also commands a great deal of interest. It is well built and has a water capacity of 1,200 gallons.

"Orwell" trucks which were shown represented the latest and best in electric lorries and trucks. The electric vehicle uses one of the cheapest forms of power that can be obtained. Electricity is now produced at very low cost in large generating stations equipped with the most efficient appliances. The combination of the modern storage battery, the motors and the very simple mechanical transmission used in the "Orwell" chassis is very high, and enables 60 to 70 per cent. of the energy put into the battery to be applied to the road wheels. No energy is consumed when the vehicle is at a standstill, which is of considerable importance when the car is used for a service with frequent stops.

Another branch in which this firm specialises is the production of electric trucks. Great economies can be made in many instances by employing these electrically operated trucks. Each truck is capable of replacing a number of labourers, and it is claimed that such saving within a few months pays the initial cost expended. Electric trucks with trailers have already become a familiar sight on railway platforms for the transport of luggage, and they are likewise rapidly proving their indispensability in factory operation.

The Bergougnan Tyre Co. also had an interesting display at the exhibition. These tyres were fitted to 85% of the French lorries during the war, and it is claimed that they gave double the mileage of any other tyre, and in many instances treble the mileage—this under the most severe road conditions conceivable. Further, Bergougnan tyres achieved what no other tyre has ever done before—when it was seen that the Allied guns could be fitted with solid rubber tyres these tyres were selected and fitted. If they could carry, as they did, these enormous weights over every kind of road, it is finally certain that when fitted to lorries they will deliver mileage far beyond the ordinary.

SCOTTISH NOTES.

[BY OUR OWN CORRESPONDENT.]

I LEARN that Messrs. John Craig & Sons, Ltd., of the Dalsholm paper mills, are embarking on an important scheme of enlargement of their old-established premises. At a recently held meeting of the Glasgow Dean of Guild Court this firm presented plans showing the details of their building scheme, and civic permission was duly forthcoming. The proprietors of the Dalsholm works continue to carry on a very successful and flourishing business in all branches of the paper trade.

DEEP regret was occasioned among his many friends in the Scottish paper-making trade—indeed, in the British paper-making trade it may well be said—at the death recently of Colonel John Birrell. For many years Mr. Birrell was one of the prominent paper manufacturers in Scotland, and his was a lifelong association with this particular trade. As a youth he commenced his apprenticeship with the old-established firm of Messrs. A. Cowan and Sons, Ltd., at the Valleyfield Paper Mills, and in the year 1882 he started business on his own account and adopted the firm name of Ellangowan Paper Company, which he carried on until his death. The deceased gentleman was for twenty-eight years a member of Milngavie Town Council, and he was Provost of the burgh for six years, showing in the discharge of his municipal duties the greatest energy and initiative. He was honoured a number of years ago by appointment as a Justice of the Peace, and altogether he was a gentleman who was held in the highest esteem and respect by all who knew him.

SOME time ago a dispute was in progress over the somewhat lengthy period of eight weeks at the Inverurie Paper Works, but I am pleased to say that this was settled thereafter on terms mutually agreeable to both parties concerned. One stipulation of the settlement was that the old employees would be re-engaged as opportunity and circumstances permitted, and the full settlement was reached after a long conference which took place in the Palace Hotel at Aberdeen.

At the recently-held Valuation Court for Cupar and St. Andrews an appeal was made by Messrs. Tullis, Russell and Co., of the Rothes and Auchmuty Paper Works at Markinch, against the proposed valuation of these premises at £8,500. In the course of the evidence, Mr. Happer (engineer with Messrs. Tullis, Russell) said that the company had 2,000 yards of railway sidings, and he heard with astonishment that the Assessor had put down the valuation of the railway at one pound per yard. Witness held that 10s. or 10s. 6d. per yard was the cost of laying the line which was put down eight years ago, and the present value was only 6s. 6d. per yard. Another witness was Mr. Taylor (engineer), and in his evidence he stated that the Assessor valued the steam piping at the power-house and to Auchmuty at £1,200. It was temporary piping he thus assessed, and its value was only £40.

FOLLOWING upon further evidence on both sides, the Chairman said that the members of the Appeal Court agreed that the Assessor, on the principle he had adopted had carried out his duties correctly, and, with proper consideration for the parties, had worked out in a proper method the figures by which he had arrived at the valuation. For various purposes, however, they proposed to restrict the valuation to £6,300. In regard to the division of the sum the valuation roll showed the valuation of the different subjects divided according to the different works, and they proposed to adhere to that distribution. The adjustment they had not been able to get correctly, as it required some little time, but when the roll was published it would show a division such as they thought was fair and reasonable to the various works.

WONDERFUL NEW GLUE.

AN IMPORTANT NEW INVENTION.

As the result of two years experimental study a Midland firm has succeeded in placing upon the market a new glue, called "S.D.Q." This product, which is a cold liquid waterproof glue, according to those who have already tested it, is said to be a wonderful invention, and one that will revolutionise matters in the glue trade. From the economical standpoint it is interesting to note that this product can be sold at a considerably less price than that paid for glue at present.

Our representative recently called upon Mr. John Bradley, 37, Queen Victoria Street, E.C., a well-known paper agent, who is the London agent for this new product, and is also a director of the company producing it. He very kindly volunteered information on this new glue, and said that it should prove a great boon to all those whose productions necessitated the use of an adhesive. "We have a factory at present," said he, "at the Midlands, and with one shift we are producing 100 tons a week. However, we intend at a near date to work three shifts, and this, of course, will increase our production to 300 tons a week."

Continuing, he said that there was at present a great demand for "S.D.Q.," and all they were now producing was practically already sold. This bore eloquent testimony as to its qualities, and those who had already tried it were loud in their praises and felicitations. Economically, it was also a success, as it was cheaper than any adhesive at present on the market. Among the many mills interested in it were the Dutch strawboard mills, and they were already testing it with the view of replacing the German water-glass glue which they were using at present. It had also been used with great success for pasting and lining boards.

"S.D.Q." was a perfect adhesive, and it could replace animal and vegetable glue, cereal paste, compounds, gums, etc. With being a fire-proofing material it was colourless and odourless and could be used in all workshops at any temperature.

"This product should be of great interest to paper box and bag makers," said our representative. "Certainly," replied Mr. Bradley, and continuing said that in these days of keen competition paper box and bag makers had to carefully study economy, and here "S.D.Q." commended itself very favourably. The glue was of special interest also to fancy goods makers in paper leather, bookbinders and paper-makers. It was sold in barrels, and the fact that it was in a liquid form also meant a great saving because it dispensed with the necessity of heating it, a process which often resulted in much waste.

Concluding Mr. Bradley said that the research department of the "S.D.Q." Manufacturing Company would be freely placed at the disposal of clients for the purpose of solving adhesive troubles. The factory in which it was produced was "British throughout."



THE paper situation, especially for newsprint, continues to be severe for newspaper proprietors in Australia. The price of papers is now generally increased from 1d. to 1½d. and 2d. throughout Australia, and advertisements are dearer by 20 per cent. or more. The Federal Government have refused a request for a reduction of duty which, being *ad valorem*, follows every increase in the price of paper. The deputation which made the request stated that quite a number of country newspapers had ceased publication, and amalgamations were contemplated owing to paper shortage.

H. REEVE ANGEL & CO.

AND AT:—
53, Dale Street,
MANCHESTER.

9, Bridewell Place, LONDON, E.C.4.

AND AT:—
75, Buchanan St.,
GLASGOW.

Sole Mill Representatives for:—

W. & R. BALSTON, Ltd., Maidstone, KENT.

Manufacturers of the world-famous WHATMAN Drawing, Ledger and Writing Papers, and high-grade WHATMAN Chemical Filter Papers.

Sole Mill Representatives for:—

T. B. FORD, Ltd.,

Loudwater, Bucks.

FILTER PAPERS and FILTER PULPS.

Sole Sales Agents in the United Kingdom for:—

THE FINNISH PAPERMILL ASSOCIATION

for the following grades:—

Newsprint: Glazed and Unglazed, on Reels. Printings: Glazed and Unglazed, on Reels. Wallpaper on Reels. Cigarette Papers in bobbins and sheets. Carton and Drawing Papers and Boards. Duplex and Triplex Papers and Boards. Bristol, Ivory and Card Index Boards, etc., etc.

ALSO FOR ENGLAND (North of Birmingham), SCOTLAND and IRELAND for:—
Printings, Writings, Banks, Envelope and Cover Papers, etc., in either Sheets or Reels.

HARTLEPOOLS' PAPER MILL.

INCREASE IN CAPITAL AND DISTRIBUTION OF SHARES.

AN extraordinary general meeting of the Hartlepool Paper Mill Co., Ltd., was held on the 12th. ult. at the First Avenue Hotel, Holborn, W.C., to consider resolutions increasing the capital of the company and authorising the capitalisation of reserves. Sir Robert W. Carlyle, K.C.S.I. (chairman of the company), presided.

The Secretary (Mr. N. Andrew) read the notice convening the meeting and the resolutions as follows:—

"(a) That the share capital of the company be increased from £200,000 to £266,000, by the creation of 66,000 additional ordinary shares of £1 each, ranking in all respects *pari passu* with the existing ordinary shares of £1 each in the company, and that, subject to the resolution marked (b), passed at this meeting of the company, such additional shares shall be issued upon such terms and conditions as the directors of the company shall in their absolute discretion determine.

"(b) That the directors of the company be, and they are hereby, authorised to capitalise the sum of £66,000, forming part of the undivided capital profits of the company, and that in respect of such profits so capitalised the directors be, and they are hereby, authorised to allot to or for the benefit (as hereinafter mentioned) of the members of the company registered as the holders of the ordinary shares in the company at the date of the passing of this resolution, 66,000 of the unissued ordinary shares in the company of £1 each, credited as fully paid up, ranking for dividend as on and from October 22, 1920, and in all other respects *pari passu* with and carrying the same rights as the already issued ordinary shares of £1 each, such 66,000 shares to be distributed among the members so registered as aforesaid so far as practicable in proportion to the number of ordinary shares so held by them respectively—that is to say, in the proportion of one of such unissued ordinary shares of £1 each for every three existing ordinary shares of £1 each held by them respectively."

The Chairman said: Gentlemen, I have the pleasure to propose the resolutions (a) and (b) which have already been read to you by the secretary, and I should like to take this opportunity of addressing you as shortly as possible about your company. With reference to the resolution to increase the share capital of the company to enable us to capitalise the undivided capital profits of the company, and declare one bonus share for every three shares held by the shareholders in the company, I want you distinctly to understand that this does not represent in any shape or form the watering of the capital of the company. The undivided capital profits which we propose to distribute among the shareholders on the lines above mentioned actually exist, and have been accumulated by your board since the formation of the company, quite apart from the considerable profits which the mill itself is earning in the ordinary course of its business.

MILL WORKING UP TO ESTIMATED PROFITS.

With regard to the work at the mill, I am pleased to inform you that we are obtaining extremely satisfactory results, and are working up to our estimated profits for the financial year of this company of £100,000. The profits we are making amply warrant the interim dividend of 12½ per cent. per annum declared by the directors, and we could easily have increased it considerably, but we are determined, as a board, further to strengthen in every possible way the present strong financial position of the company. We are doing all in our power to secure a larger output at the mill by extending it for the early erection of the additional machine which, when running, will increase the output by 70 to 80 tons a week.

I am glad to be able to inform the shareholders that our associated company, Olives Paper Mills Co., Ltd. (in which we have a considerable holding), is doing extremely well, and we are satisfied that the profits of £120,000 for 1920, estimated by the managing director of that company, should be reached. The board have every reason to be satisfied with the work done by our staff and workpeople, and I would especially mention the names of two of our directors who are on the staff, namely, Mr. Henry Smith, the managing director, and Mr. H. Andrew, the secretary. Any shareholders who would care to visit our mill or Olives Mill to see for themselves the work we are doing will be welcomed by appointment.

Mr. John Garnett, J.P.: I have pleasure in seconding the resolutions. As chairman of the old Hartlepool company for fifteen years, I am delighted to know that the present company in its first six months' working is able, without touching the earned profits from the working of the mill, to put before the shareholders two such resolutions as these. It is with the very greatest pleasure that I second them, and at the same time I wish with all my heart every success to the new company in the years to come. (Hear, hear.)

The resolutions were carried unanimously.

Mr. Popham said he understood Mr. Harrison had recently been to Germany with a view to making inquiries into the paper manufacturing industry there and the conditions of the trade generally as compared with the industry in this country. Previous to the war Germany was our greatest competitor. He thought the meeting would like to hear a few remarks from Mr. Harrison as to his visit.

THE POSITION IN GERMANY.

Mr. William Harrison: Sir Robert and gentlemen, a very interesting question has been asked, and I should have liked time to get together data in order to answer it with very great care. I might say, however, that I spent practically the whole of August and some part of September in making a most extensive tour through Germany. My tour was for the benefit, I certainly believe, of this company. I charged the company nothing for it. Now, sir, what did I find in Germany during my travels of some thousands of miles? I found that the German paper mills were in a very bad condition. They were practically without coal, and the mill-owners told me, with a certain sadness in their eyes: "We cannot make paper as long as the French compel us from Monday morning until Saturday midday to ship them by tugboats some 2,000,000 tons of coal per month." I found that one of the largest paper mills I visited had not been running for seven months, and only had enough coal to run two or three days. But, gentlemen, the German coal question and the paper trade, so far as it concerns this country, is only one side of the matter. I want you to consider another side, and it is this: As you know, there have been great fluctuations in the mark on the exchange, manipulated, in my view, by the international Jew. When I was in Germany I bought the mark at something like 160 or 170 to the £; it has since been something like 235 to 240 to the £. That, in my view, is an important factor as affecting the paper industry of this country. So long as we have that fluctuation in the German exchange we have to be on our guard, and as a board we are determined, along with other papermakers in this country, to be on our guard; for, believe me, the German does not mind the exchange being down at 235 to the £. Rather does it concern the British manufacturer.

THE QUESTION OF DUMPING.

It is up to us to see that the German who bought his pulp in Finland at 150 marks to the £ and can now dump it in this country with marks at 235, thus getting more

marks for his sovereign, is not permitted to do so, and I for one am going to take good care that the papermakers of this country combine together, if necessary, to stop this dumping if it ever takes place. But we are in this position: There is no chance at the moment of large dumping of German paper, although you get isolated lots offered to you at far less than the British papermakers can quote you. But the German, from my study of the situation in Germany for nearly a month, is still a very wily individual, and we will take care, in combination with other mills, to see, if necessary, that the fluctuation in the German exchange is not going to help him. Sir Robert Carlyle and myself, along with other delegates, are leaving on Friday for an extended tour in Norway, Sweden and Finland to study the situation there on behalf of your company, because we realise, as a board, that the key to the situation in the future prospects of any paper mill which is properly conducted in this country lies in people who are directing the company knowing how to purchase and when to purchase the raw materials for your mill. We want to study that situation.

CONTEMPLATED PURCHASE OF PULP MILL.

Sir Robert, at one meeting not long ago, referred to our contemplating the purchase of a pulp mill in Norway or Sweden. That is an important matter, in my opinion, for the future prosperity of this company. A shareholder has raised certain questions, and I should like to say that so long as I am on this board I will always vote against the payment of excessive dividends. I believe in conservatism. If you get from 12 per cent. to 15 per cent., knock off your debentures, gentlemen. That is the principle so far as we are concerned, and it may send our friend away happy if he knows that we could have paid for this half-year, not 12½ per cent., but over 20 per cent., and then got ready at the end of the year to make a big hole in the debentures. We are suffering from E.P.D. We are

going to pay it; we cannot help ourselves. That is the position, but there are other companies—hundreds of them—which do not state what their E.P.D. is. It is an unfair tax, and one which I hope will be put an end to by the end of March, 1921. In conclusion, all I can say is that no stone will be left unturned to make this company a prosperous and a dividend-paying concern. We are not concerned about the value of the shares; but we are concerned to pay a good dividend year in and year out to the shareholders. That is our principle, and the result we have to aim at. (Applause.)

The proceedings then terminated.

THE East Lancashire Paper Mill Company, Radcliffe, have provided two shale tennis courts for the employees opposite the mill, and next year two grass courts and a bowling green will be ready for use. A tennis tournament was concluded recently. The 22 competitors showed remarkable progress, as most of them had not handled a racquet previously to the courts being opened in June last. The results of the tournament were as follows:—1, tennis racquet and three tennis balls, B. J. Hurst; 2, tennis racquet, W. Spencer; 3, hair brushes in leather case, W. Holt; 4, tennis bag, H. Bradshaw. The first and second prizes were given by patrons. Great interest was manifested during the progress of various rounds.

In the course of a witty review of the tour of the Imperial Press Conference delegates, Mr. Levi, of Pretoria, S.A., said: "We worshipped in the power houses of paper mills, lofty enough to be cathedrals. We looked the pignies we are beside the powerful piles of wood that had swum their hundred miles through enchanting river scenery. We lunched off gorgeous salmon, performed social rites at many an afternoon tea, laid down the law, and listened at dozens of dainty dinners to statistics of what was offered."

SKIN GELATINES AND GLUES.

PURE SKIN GELATINES AND SKIN GLUES FOR PAPER
COATING AND SIZING.

HIGHEST GRADES.

OURY, MILLAR & Co.,
9, Mincing Lane,

LONDON, E.C.3.

Telephone—4978 Avenue.

Telegrams—"Olmenth-Fen, London."

"BELFAST TELEGRAPH" JUBILEE. MANY HAPPY RETURNS OF THE DAY.**GLOWING TRIBUTE TO MR. R. H. H. BAIRD.**

A historic event in the newspaper world occurred on the 18th ult. when the jubilee of the *Belfast Telegraph* was celebrated. With this paper, which has found a niche unique in the hearts of the Irish people, the name of Mr. R. H. H. Baird, J.P., has been honourably and successfully associated throughout the long vista of years.

It can be readily imagined, therefore, that members of the staff, and employees generally, were anxious that the event should be marked in memory in a manner fitting to the occasion, and that Mr. Baird should receive some impression, however slight, of the loyalty and affection of the massed battalions, who in their ordered course and respective departments play a part in the news-gathering, preparation, printing, and circulation of the *Belfast Telegraph* and allied papers. It was decided that no delay should occur in the paying to Mr. Baird of a suitable tribute from the staff, and in Thompson's Restaurant, Belfast, on the 8th ult., the members of the committee met at dinner, when the managing proprietor was made the recipient of a life-like portrait of himself in oils by that well-known artist, Mr. W. G. MacKenzie, A.R.H.A., along with a handsomely illuminated address in album form, while his partner, Mrs. Baird, was associated with the compliment and presented with a magnificent wristlet watch.

The chair was occupied by Mr. A. W. Stewart, managing director of the *Belfast Telegraph*. On the chairman's right sat the guest of the evening, who was accompanied by Mrs. Baird, Mrs. W. Baird and Mrs. J. McQuitty. Major W. Baird, Mr. J. McQuitty and other directors of the firm were also present.

The toast of "The King" having been suitably honoured,

The Chairman, after explaining the object of the assembly, dealt with the unaltered prosperity and success of the *Belfast Telegraph*.

Mr. R. H. H. Baird, in replying, said he hardly knew how to thank them for the kind expressions conveyed to him by some of the speakers. It was gratifying to find that after fifty years, thirty-four of them being, might he say, under his own direct management, the *Belfast Telegraph* had progressed as it had. They would be pleased to know that the return for the last quarter constituted a record for the *Belfast Telegraph* as far as circulation was concerned, and also, notwithstanding the boycott in many parts of Ireland, it was a record period for the circulation of the *Irish Daily Telegraph*. (Applause.) And all that notwithstanding the fact that the price of the *Telegraph* had been increased from 1d. to 1½d. during six weeks of that period. (Applause.) They had had for some years past the most intensive circulation of any newspaper in Britain, and he doubted if there was a paper in America that could touch their record, namely, that in the city of Belfast they supplied daily one copy to every six of the population. (Applause.) During the career of the *Telegraph* they had had many opponents. Six or seven newspapers had loomed into existence, and all disappeared one after the other. They had many strenuous fights and many important decisions to make. The proprietors of the *Telegraph* always recognised that they must give the public value in the news-sheet, and steer clear of politics in their news columns. They were newsmongers and newspaper producers, and it was not the privilege of any newspaper man, no matter what high position he holds, to dictate to the public. Their duty was to give to the community true news, unvarnished, impartial, and with no suggestion of colouring. (Applause.)

50—NOT OUT!

THE "50" habit has become epidemic in the paper trade, and we have much pleasure in congratulating Mr. John Sherrard, manager of Messrs. Paul Sabel and Co., 26, Upper Thames Street, London, E.C.4, on attaining his 50th birthday. We hear that the anniversary will be celebrated at a gathering of paper trade friends at Frascati's on November 17.

Mr. John Sherrard is one of the best known "knights of the road" associated with the paper trade in this country, and his sound knowledge of the business, geniality and straight dealing have won for him a wide circle of



MR. JOHN SHERRARD.

friends. He was educated at the Haberdashers' School and at the age of 15 entered the employ of Messrs. G. Simmons and Co., 68, Upper Thames Street, E.C.4, where he remained for two years on the "bottom rung of the ladder." He then entered the employ of Messrs. Cookson and Macdonald, and was with this firm for three years. When Messrs. Paul Sabel and Co. commenced business in September, 1891, Mr. Sherrard became associated with the then new firm and has since risen from shipping clerk to manager.

During the last quarter-of-a-century he has travelled over Ireland, Scotland and the Midlands and on Armistice Day, November 11, his 50th birthday will be suitably celebrated.

FINLAND. SMALL PULP & PAPER MILL FOR SALE.

Particulars may be obtained at the Offices of
"THE PAPER-MAKER,"
47, Cannon Street, London, E.C.4.

FOR QUALITY AND QUANTITY

COMMUNICATE WITH THE
ORIGINAL
RELIABLE FIRM

COOKSON BROTHERS,
STOCKPORT, ENGLAND.

Telegraphic and Cable Address:

"BAGGING, STOCKPORT."

Codes—A B C 5TH EDITION, LIEBES'S, WESTERN UNION, WASTE TRADE, PRIVATE.

Telephone:

No. 609 Stockport (5 lines)

Every description of Linen Rags, Cotton Rags, Woollen Rags, Ropes, Bagging, Surat Tares, Messians Twines, Canvas, Tarpaulin, Wood Pulp, Engine Waste, Sponge Cloths, Cotton, Cotton Waste, New Papers, Waste Papers, etc., etc.

EDINBURGH JOTTINGS.

Edinburgh, October 20, 1920.

The unfortunate coal strike is the topic of the moment, and at the time of writing it is impossible to predict how long the strike will last or what will be its ultimate effect upon the industry. With two tons of coal required to turn out one ton of paper, it will be seen that only in exceptional cases can mills carry sufficient stocks to last for more than a few weeks. Apart from the strike the paper industry shows traces of unsettlement. There is practically no speculative buying-ahead, and there are many cases of paper being offered below its original cost. So far as the mills are concerned any reduction in price is caused by a desire to get order books full again, the home demand having fallen away. Export orders are plentiful. It should be noted that the high production costs remain practically as before, and there are no immediate signs of a permanent fall in the prices quoted by the mills. The case of agents and merchants, however, is somewhat different, and it is here that some lines of paper are being offered at a sacrifice, partly owing to the fear of foreign imports and partly to the necessity for ready money.

Manufacturing stationers find business fairly good. The envelope trade is busy, and stationery bookbinding is quite brisk. It is not generally considered to be a time for launching into fresh enterprises—an impression which may be a mistaken one—but rather a period for marking time. Many competent authorities consider that what is required is a return to the pre-war principle of a small margin of profit on a large turn-over rather than a big percentage on small scales.

A good deal of unemployment exists in the letterpress department, due to the fact that the publishing trade is adversely affected by the abnormal costs of production, and in a lesser degree that the consumers are cutting down their business for catalogues, etc., also owing to the high costs of supply and distribution.

The boxmaking trade is on the whole busy, with firms here and there complaining of a reduced demand for war-time specialities. Speaking generally, however, there is not much to complain of, and the immediate prospects are considered to be quite bright.

Trade exhibitions are apparently in favour. In Edinburgh, for instance, Messrs. McIlagan & Cumming, the well-known lithographers, recently gave an exhibition of showcard designs, etc., in one of the central Art Galleries. The original sketches were for sale. The collection altogether comprised many hundreds of designs, and it is understood that the venture was a decided success. At the time of writing, Messrs. George Waterston & Sons, Ltd., are conducting an office appliances exhibition in a public hall, where they are featuring their own specialities and various modern devices of office systems. The exhibition, of course, is free, and the attendance from day to day must be pleasing to the promoters, both because of its numbers and of its representative character.

In Edinburgh, rumour says a well-known firm of wholesale stationers, the tenancy of whose premises shortly expires, and who have been unable to secure a renewal, have succeeded in buying the premises of a rival firm across the way. The latter firm, who are now looking round for new offices and workshops, did not learn of the "deal" until it was an accomplished fact.

NORTHERN NOTES.

MANCHESTER BRANCH OFFICES,

448-450, Produce Exchange,

October 20, 1920.

As my readers are no doubt aware, the pulp market continues very depressed at the time of writing, and, as far as the writer can ascertain, there is absolutely no business passing, unless it is confined to a re-sale of some parcels coming over here which the original consignees find it difficult to provide funds for.

Undoubtedly the question of money is entering largely into the way of business, and I believe it to be a fact that assistance will be needed in more than one case to cover shipment contracts which are expected before the end of this year.

I am given to understand that to-day the various banks are throwing out hints to merchants and manufacturers that stocks lying round mills should be converted into money instead of their further borrowing. This undoubtedly accounts in great measure for the lack of new business.

In pre-war days it was quite an ordinary thing for a mill yard to contain a value of pulp which would easily cover the capital of the company, and in these days of enormously high prices, that condition of affairs is easily reached.

It is interesting to note from the Custom House returns the vast difference in the prices entered for Custom purposes.

I noticed in one case that dry mechanical pulp was entered as high as £45 per ton, whilst the moist commodity was entered at under £11 per ton. It would be very interesting to hear an explanation of the great apparent discrepancy between the two.

With regard to ruling prices, notwithstanding the lack of trade, as I have stated before, the price is maintained for easy bleaching pulps, and last week I noticed as much as 1,500 kr. f.o.b. was quoted for the first quality easy bleaching pulp (Norwegian). It is a true indication of the strength of the forward market, and it is undoubtedly a fact that little remains unsold for next year.

If any weakness is to be found in quotations for pulp, it applies to soda pulp, which seems to be offering round pretty freely. I cannot ascertain at the moment that any quotations exist for mechanical pulp.

With respect to freights, the quotations for forward are certainly very easy but as regards any anticipations of a still further decline, those responsible for chartering steamers would appear to be holding off still.

If the coal strike lasts for any time, it is going to seriously handicap business. At the time of writing we are in the throes of it. It is anticipated that many mills will have to close at the end of the week.

A good many of the bigger mills will be able to run on a few days longer, but it is feared that the whole of the works will be at the end of their resources in three weeks' time.

Opinion, of course, is divided as to the length of time the strike will last, and whilst most of us hope that it will be of short duration, a good many people on 'Change this week were of opinion that it would be fought to a finish, and would last probably for a month.

Naturally this coal strike will hit Norway and Sweden heavily, as they draw from this country most of their coal supplies used for manufacturing purposes.

All exports having ceased, it naturally follows that manufactures of pulp will cease, and that will hit this country again, as the British Government will require to replenish their stocks before allowing the export of coal to be resumed. That will mean further delay in the supply of coal to pulp mills, as well as paper mills.

At the Photographic Institute, Manchester, on the 19th ult., Mr. T. Murray Shaw delivered a very interesting lecture, covering travels from Newcastle to Bergen and Christiania. He dealt with many points in the paper and pulp industries which were followed with keen interest. It would be very desirable if similar lectures were arranged in various districts of the North.

On the 12th ult. the local papers published a statement to the effect that a man of the tramp class had confessed to having wilfully set fire to the Wallpapers' Mill at Darwen last August, which was totally destroyed. He was brought up at the Darwen Police Court and remanded for a week.

Amongst the recently-elected members of the Stand Golf Club, Whitefield, appear the names of two well-known gentlemen in the pulp trade, viz., Mr. T. Newlands, of Messrs. J. E. Salvesen & Co., Ltd., of Manchester and London; and Mr. H. G. Willis, of Messrs. Berner & Nielsen, also of Manchester and London.

Quite a number of paper-makers are members of this club, so that both gentlemen received a hearty welcome on joining. A new club house is in course of construction, and the course is undergoing improvement. The club gave up nine holes for the purpose of providing allotments during the period of the war, but at the present time they are being converted into playing fields as before.

Mr. T. Newlands, of Messrs. J. E. Salvesen & Co., Manchester, gave a very interesting lecture, with lantern slides, entitled, "From Forest to Fireside," in connection with the Whalley Range Presbyterian Literary Society, of which Mr. Newlands is a member, on the 19th ult. Mr. A. McNicol presided over a good attendance. Mr. Newlands was heartily thanked for his services. At intervals songs and recitations were given.

Mr. Joe Fielding, Northern representative of Messrs. William Pharaoh & Co., Ltd., London, has just returned from a three-months' visit to Finland and Sweden, and, during a chat with the writer, gave some interesting details of the conditions prevailing out there during his stay.

First of all he found things had settled down after the turbulent times that had been experienced in Finland. Everybody seemed busy, and several new wood pulp and paper mills were just starting up, while others were in course of erection.

Mr. Fielding's friends reported that the chief trade was done with Great Britain at the present time, and of course the Finns have always encouraged and welcomed trade relations with England.

Food and living conditions were very good, food being apparently plentiful and reasonable in price, especially for the English visitor, owing to the rate of exchange being most favourable to the latter.

Everybody appeared to be working hard and making the best use of their opportunities, while very few strikes had occurred. Labour troubles that did occur were regarded as "political" strikes and the leaders were summarily arrested in most cases and dealt with accordingly by law.

Business people he met reported that the only difficulty they experienced was the obtaining of import licenses from the Finnish Government, especially in regard to what were looked upon as luxuries or anything regarded as unnecessary. In other words, a policy of strict economy was adopted by the Government authorities.

The Finns had, moreover, adopted conscription in the country in order to protect their borders from the Bolsheviks. They had also provided a large National Defence, consisting of volunteers of about 100,000 strong, all reliable men solidly loyal to the country and Government.

During Mr. Fielding's stay the Kotka pulp mills were bought by a Finnish company and were about to start working operations as soon as possible. (They were stopped during the greater part of the war.)

While he was in Sweden, Mr. Fielding found trade fairly good, but many people out there were complaining about the high price of English coal. He noticed while in

Sweden that several American steamers arrived with American coal, as they were not getting sufficient coal from England to meet their requirements. Of course, while the English coal strike lasts Sweden will have to depend entirely upon American coal.

Living conditions in Stockholm Mr. Fielding found very costly, on account of the rate of exchange being low, and wages, etc. being much higher, as compared with Finland. The paper mills, he found, were not too busy in Sweden.

Mr. Fielding emphasised the fact that he met with a hearty reception everywhere he went, both in Finland and Sweden, and he found that all were looking forward to a large amount of business being opened out between the three countries. Moreover, Mr. Fielding added that he had had no difficulty whatever in connection with his passport in either Finland or Sweden.

MANCUNIAN.

The London Paper Mills were registered on August 20 with a capital of £250,000 (£1) to take over the business carried on by the London Paper Mills Co., Ltd. (incorporated) in 1897. The first directors are:—A. R. Reed, Bingles, Withyham, Sussex; E. P. Reed, 80, Chester Square, S.W.1.; C. I. Stevens, Bellingham, Sutton Valence, Maidstone; S. Cousins, Little Tisbury, Maidenhead; H. L. Watson, The Views, Bromley, Kent. Minimum cash subscription, seven shares. Qualification as fixed by the company. Remuneration, £100 each per annum (chairman £150). Secretary: A. H. Huckle. Registered office: 50, Cannon Street, E.C.

TELEPHONE: 6820 CITY

TELEGRAMS: "PAPER, MANCHESTER"



Pollard St. East, MANCHESTER.

WASTE PAPERS, BAGGING & ROPES.

OUR STRONG POINTS.

PROMPT ATTENTION,

::

RELIABLE GRADING.

CARE AND CLEANLINESS IN SORTING.

THE CORNISH CHINA CLAY INDUSTRY.

FROM OUR ST. AUSTELL CORRESPONDENT.

FOR several weeks past the demand for the Cornish China Clays has been very brisk, and in so far as this applies to the American-Canadian and Continental markets it is very gratifying, showing, as it does, that there is an improvement in the facilities for transport. The home markets, however, may have been accumulating some stock in view of the threatened coal crisis, and thus can only be regarded as being temporary. I am informed that the present prices ruling throughout the industry are to be maintained for another period of six months, which, with falling freight, should help our sea-borne trade considerably. The industry is overshadowed by a coal crisis, and cannot but be affected in a few weeks. We understand that the majority of clay firms have a couple of months' supply, and providing there are no restrictions enforced by the Government in the way of shipping and transport there will be no stoppage this side of Christmas.

Mr. J. W. Higman, J.P., and Mr. Fred. R. Lovering are both in America. Mr. T. Medland Stocker, J.P., and Mr. Walter Sessions, managing directors of The English China Clays, Ltd., were there a short time ago, and Mr. H. Stanley Pochin, J.P., has recently returned from a very successful business expedition. On the 19th ult. I was favoured with a short interview by Mr. H. Stanley Pochin, managing director of Messrs. H. D. Pochin & Co., Ltd., of Salford, Manchester, on the occasion of his periodical visit to Clayopolis.

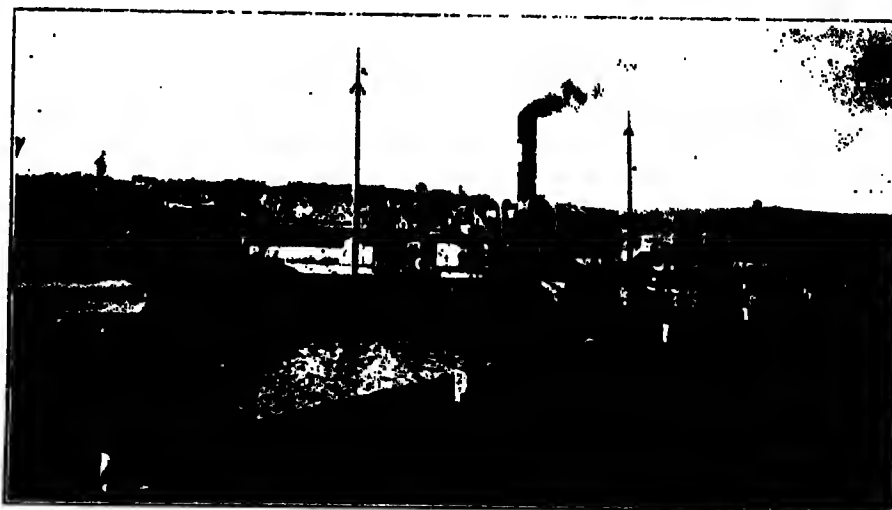
Mr. Pochin informed me that he had had quite a satisfactory tour in the United States, and also Canada, and succeeded in arranging a deputation of American importers of China Clay to meet at the British Embassy in Washington with a view to accelerating the despatch at the various English ports, with the result that a letter has been sent to the members of the British House of Commons showing conclusively the great anxiety of the American exporters on securing a more regular supply of the Cornish clay rather than chance the substitution of domestic clay. Mr. Pochin expressed the opinion that the British Government fully apprehended the importance of maintaining our large export trade, and can be relied upon to render the industry all the assistance it required. With regard to the coal crisis, Mr. Pochin said his firm had secured a fair and reasonable stock, a position which, he believed, was general throughout the industry, and as no stocks were in hand they would be enabled to carry on until Christmas providing there are no restrictions enforced upon them in transport and shipping. Mr. Pochin said the bunker coals for the boats may present some difficulty, but it was probable that the American boats would obtain sufficient supplies from their own collieries. In any case

they had decided to keep all their employees as long as they possibly could either on production or developing. Although the firm of Messrs. H. D. Pochin & Co. had acquired several valuable China Clay properties recently, Mr. Pochin informed me that they had secured the Wheal Frederick China Clay Works at St. Dennis. The Wheal Frederick property is adjacent to the firm's large Gothera Mine, and they are intending to develop their new acquisition upon up-to-date lines. At Penzance the firm are making great strides in increasing their output capacity, and their recent achievement, the smart loading of the s.s. *Spes* with a large consignment of their St. Just clays for America, will soon be succeeded by greater triumphs. Mr. Pochin also informed me that the firm were applying their energy in the ball clay properties of Devonshire, and have already acquired two valuable mines, "The Main Bow" and "Newbridge," and the samples obtained have been certified by experts to be the best in that county.

In the course of a conversation with Mr. W. Rose, principal of the firm of Messrs. North & Rose, I was informed that it was not unlikely that the China clay producers would shortly decide to partially suspend production in order to conserve their coal supplies. Possibly they may halve their operations, part of the week in producing and

the other part in clearing up their mines and also developing. Mr. Rose said that if nothing interfered with their facilities for transport and export most of the China clay merchants would be able to go along as they were until Christmas.

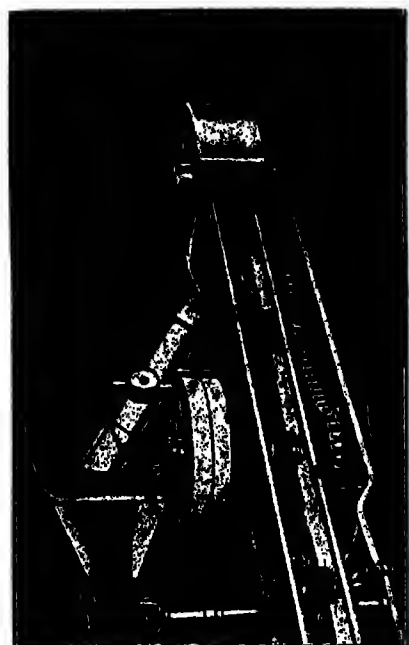
Mr. Joe Larris, secretary of the Workers' Union, and Labour candidate for the China Clay Division of Cornwall—the Penryn and Falmouth constituency—in a brief discussion on the



S.S. "SPES" LEAVING PENZANCE LOADED WITH POCHIN'S CHINA CLAY.

situation, said he saw no reason whatever why the China clay trade should be affected for a bit. There was a good supply of coal everywhere.

The announcement that Mr. Mallaby-Deeley, M.P., had secured the Redlake China Clay Works in the South of Devon, formerly carried on by the China Clay Corporation, Ltd., did not come as a surprise, as many were aware of the great interest he had shown in the undertaking as a former chairman of the directors and the largest individual debenture and shareholder of the late firm, the China Clay Corporation, Ltd. The sale of this West Country property was conducted by Mr. Claud F. Goddard, F.A.I., of the firm of Goddard & Smith, and took place in the Auction Hall, 196, Piccadilly, London, on the 20th ult., and was by order of the High Court of Justice (Chancery Division). For some time bidding was very slow, beginning from £10,000. When the offer had risen to £28,500 competition became keener, and the sum of £38,000 was soon reached. Two competitors, however, carried the offers to £47,000, when it ended, and at this juncture Mr. Goddard perused the reserve price set down by the Judge, which also contained sealed instructions, and was able to announce that Mr. Mallaby-Deeley had become the purchaser.



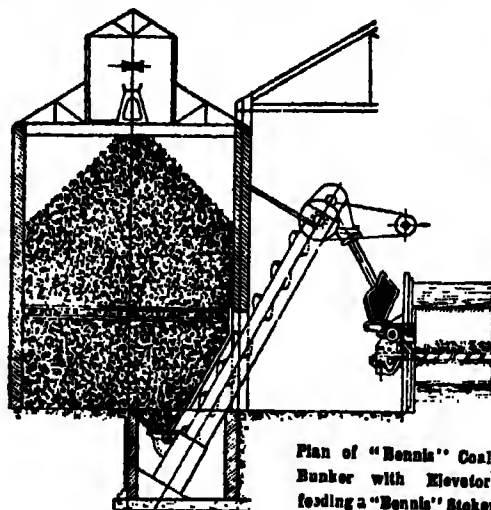
A "Bennis" Single Elevator feeding a "Bennis" Automatic Stoker in the Boiler House of a big Lancashire Factory.

Wasted Coal and Wasted Labour

THESE two illustrations show the simplicity of the "Bennis" system of handling coal and ashes. The Elevator—which stops and starts itself as required—carries the coal direct to the mechanical stoker on the boiler. The whole operation is automatic, eliminating all superfluous labour, effecting large savings in the coal bill, and increasing steam output.

Further particulars, photographs, drawings, reference to numerous installations, and figures of official tests, sent free on request.

Thousands of small factories in England are equipped with single elevators operating with the same economy and efficiency as on a large plant with many boilers.



Plan of "Bennis" Coal Bunker with Elevator feeding a "Bennis" Stoker

Ed. Bennis & Co., Ltd.,

Little Hulton, Bolton, and 28, Victoria Street, S.W.1.

TORP BRUGS A/S Fredriksstad, Norway



Highest-
Class

PURE KRAFT PAPER

M.G. & Unglazed
D/C 16 lbs and up

WIDTH OF MACHINES { For M.G. 103 ins.
 For Unglazed.. .. 103 and 120 ins.

Representative for Mr. T. V. OLSEN, Lambert House, 10/12, Ludgate Hill, London, E.C.
Sole Agent for the United Kingdom and Ireland.

MARRIAGE OF MR. LANCELOT SPICER.

On the 6th ult. the wedding took place at Brompton Parish Church of Mr. Lancelot Dykes Spicer and Miss Iris Cox. The wedding was of a quiet nature owing to the death of Mr. W. Pallett Cox, the bride's father, early in this year, and only immediate relatives and friends attended. At the reception which was held at 63, Rutland Gate, there were present Sir Albert and Lady Spicer, Lady Evan Spicer, Sir Howard Spicer, the Right Hon. T. McKinnon Wood, and also many members of the house of James Spicer and Sons.

Mr. L. D. Spicer is the youngest son of the Right Hon. Sir Albert Spicer, Bart., the chairman of Messrs. James Spicer & Sons, Ltd., the well-known firm of wholesale stationers, paper warehousemen and manufacturers. He served with great distinction in the army during the recent war, obtaining the rank of Brigade Major in 1918, receiving the Military Cross in October, 1917, and being thereto in May, 1918, also the D.S.O. in September, 1918, besides being Mentioned in Despatches several times. After leaving the Army he entered the business of which his father is chairman, and is greatly esteemed by all with whom he has come into contact.

On the eve of the wedding Mr. F. L. Cayzer, the secretary of the company, made a presentation, on behalf of the staff at 50, Upper Thames Street, to Mr. Lancelot Spicer of a dinner service and silver cigarette box, as a mark of their esteem and goodwill.



THE BRIDE AND BRIDEGROOM.

AUSTRALIAN CUSTOMS TARIFF.

DEPUTATION OF PAPER-MAKERS MEETS MINISTER OF CUSTOMS.

We reported in last issue, in the course of an interview with an Australian paper merchant the fact that the new Australian customs tariff was causing a deal of discussion amongst the paper-makers of this country. Many clauses in this tariff were bitterly resented, and it was stated that the ultimate end, if this Act was passed, would be the ruination of the paper trade. The new duty chargeable was considered exorbitant, and objection was also raised to the *ad valorem* clause.

A deputation from the provincial Press recently waited on the Minister of Customs (Mr. Massey Greene) on this subject. The Minister gave a sympathetic reply, and said that, so far as his position would permit him to commit himself, he promised them relief.

Capt. Bruce, M.P., said the provincial Press of Australia was having a hard struggle owing to the high cost of material. It was essential to the country districts that the small papers should be kept going, as they voiced public opinion on matters of purely local interest.

Mr. J. Ryan, M.L.C., of Lithgow, said that the deputation sought some relief from the burden imposed by the heavy cost of paper and the consequent heavy duty which had to be paid. In pre-war days large indents of paper cost £11 10s a ton and small lots £14 10s. a ton. Last year they bought paper for £30 13s. 4d., and this year Scandinavian paper on contract cost £72 10s. a ton. It was estimated that in six months' time the price would be £95 a ton. Their idea was, however, discouraged by the answer given to Dr. Page, M.P., by the Minister in the House recently. As an alternative they now suggested that the duty should be levied on the home consumption value of the country exporting. This was the case in regard to Canada, but not in regard to Scandinavia.

Mr. Greene: If that is so it will be altered.

Mr. Ryan: We are glad to hear that. In 1914 the duty on Scandinavian paper was 13s. 6d. a ton, while at present it was £8 10s. a ton.

Mr. W. A. Whitehead (president of the Victorian Provincial Press) said that they spoke for the struggling country papers and not for the wealthy city firms.

Mr. Greene: You recognise that there can be no discrimination. The duty must be the same for all.

Mr. Whitehead: That is so, but we are putting the case of the struggling papers rather than that of those that are well able to look after themselves. It is hoped that in the next twelve months prices of paper will be nearly normal.

Mr. Greene said he recognised the value of the Country Press. What they were really suffering from was the shortage of paper. He hoped that the time was not far distant when Australia would be able to produce its own paper. Investigation was proceeding in that direction, and he hoped that as the result of the passing of the Science and Industry Bill some good results would be obtained in this respect. He could give them an assurance that the Customs Department would charge for Scandinavian paper on the same basis as for Canadian. It would not be the same amount, but on the same basis—the home consumption value. The question should then be gone into whether, in the circumstances, it was desirable to make any alteration in the schedule which was before Parliament. That was a matter upon which, even had he made up his mind, he could not speak to them, but their representations would receive careful consideration. It was a purely revenue duty, and was in no way protective. The whole question, therefore, was whether they were getting too much revenue from that source or not. In the meantime, they would get relief on the home consumption value basis.

EBURITE PAPER CO. LTD. AMBERLEY WHARF, PADDINGTON, W. 9.

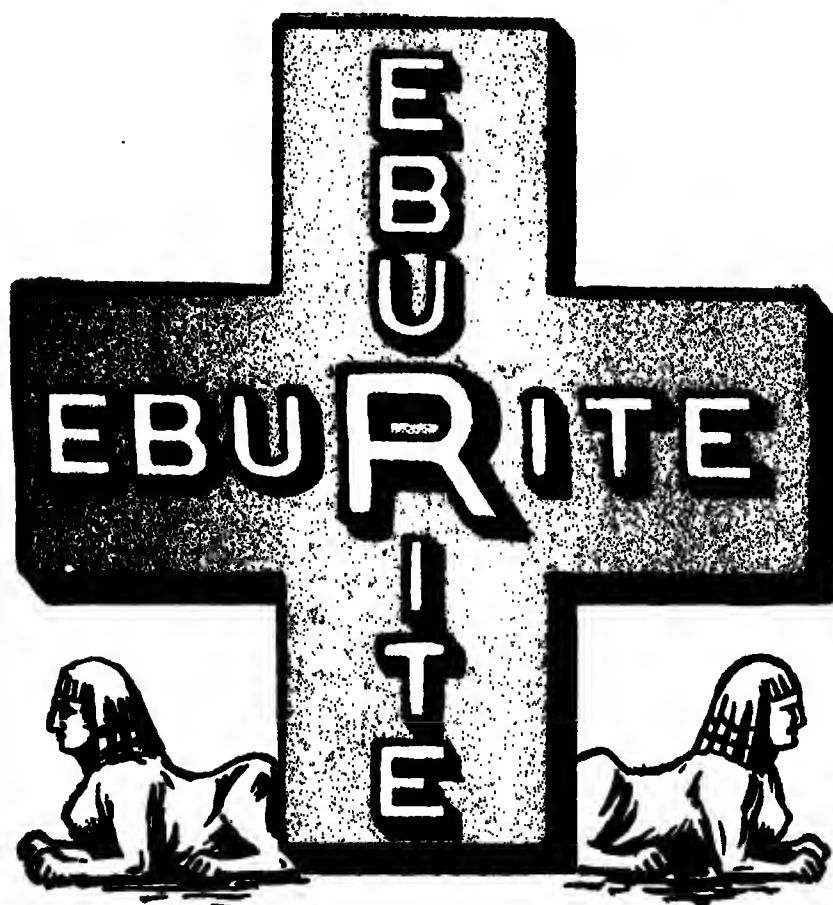
WAXED PAPERS

” Pieces
 ” Parchments
 ” Tissues

MANUFACTURERS

CORRUGATED PAPER

” Boxes
 ” Cartons
 ” Rolls
 ” Pieces
 ” Greaseproof



FANCY PAPERS

Crinkled Papers
 Crepe Papers
 Shelf Papers
 Shavings

EBURITE PAPER CO. LTD. AMBERLEY WHARF, PADDINGTON, W. 9.

THE MARKETS.

(For Wood Pulp Markets see page 646.)

ESPARTO.

Messrs. Ide & Christie's Monthly Circular, dated October 15, 1920, states: A return showing the registered quantity and value of Esparto Grass imported into the United Kingdom during the month of September, 1920:

Date.	Port.	Vessel.	Place.	Tons.
Sept. 1	London	"Mels R. Finsen"	Sfax	400
" 8	"	"Luigini"	Algiers	372
		Accarne "		
" 11	"	"City of Algiers"	"	175
" 14	Manchester	"Chateau Saline"	Arzew	400
" 27	Granton	"Cleopatra"	"	906
Aug. 6	Leith	"City of Montidie"	Oran	15
" 9	"	"Overdale"	Sfax	19
Sept. 6	"	"Brynild"	O.an	1,080
" 8	Glasgow	"Masuria"	Aguilas	502
" 3	"	"Otto Kathoff"	Almeria	1,200
" 8	"	"Masuria"	Aguilas	508
" 8	"	"	"	180
July 31	"	"Otto Kathoff"	"	8
Sept. 23	Bristol	"Dorrit"	Almeria	36
" 17	Sunderland	"Inverawe"	Susa	1,200
Deductions:—				
Aug. 9	Leith	"Overdale"	Sfax	12
" 9	"	"	Susa	28
" 8	Glasgow	"Safavern"	Almeria	2
" 8	"	"	Aguilas	2
June 22	"	"Otto Kathoff"	Almeria	2
Aug. 24	Aberdeen	"Mels R. Finsen"	Sfax	439
July 31	Granton	"Saskatoon"	Oran	34
Aug. 23	Sunderland	"Thyra"	Sfax	18
" 13	Aberdeen	"Nyhaven"	Susa & Sfax	35

CURRENT PRICES F.O.B. SHIPPING PORTS.

	£ s. d.	£ s. d.
Oran, fair to good..	12	0 0 to 16 0 0 per ton
Bona & Philippeville, gd. av.	12	0 0 to 16 0 0 per ton
Sfax and Gabes ..	12	0 0 to 16 0 0 per ton
Tripoli, fair average hand-picked ..	12	0 0 to 16 0 0 per ton

HOME RAGS.

LONDON.—Trade is dull on account of the unsettled state of labour.

	per cwt.	46s. 6d.	to 50 0
Fines (selected)	..	34s. 6d.	36 0
Outshots (selected)	..	28s. 6d.	30 0
Seconds (selected)	..	20s. 6d.	22 0
Seconds (country)	..	—	9 0
Thirds	—	16 0
Prints (old)	..	—	8 0
" dark	—	40s. 6d.
No 1, Canvas	30s. 6d.	34 0
" 2, "	16s. 6d.	20 0
" 3, "	14s. 6d.	16 6
Common Jute Rope	12s. 6d.	14 0
Clean Gunny	—	—

EDINBURGH.—Practically all paper-making materials are easily sold, and there has been no material alteration in the prices.

FOREIGN RAGS.

LONDON.—Prices remain the same.

No. 1 White Linens	per cwt.	£3 5 0	to £4 0 0
" 2 " "	..	2 10 0	3 0 0
" 3 White Linens	..	£2 0 0	£2 10 0

No. 1 White Cottons	per cwt.	£2 10 0	to 2 15 0
" 2 " "	..	2 5 0	2 10 0
" 3 " "	..	1 10 0	1 15 0
Old Grey Linens	per cwt.	£3 5 0	—
Coloured Cottons	..	1 6 0	—
Housecloths	..	0 18 0	—

CHEMICALS.

The industrial unrest is materially interfering with business, which at normal times is quiet.

Alum, best lump, in tierces F.O.B., at makers' works	..	..	ton £17 10 0
Do., ground in bags	..	..	" 18 0 0
Alumina, Sulphate of, 14 per cent.	..	..	" 17 0 0
Bicarbonate of Soda, F.O.B.	..	..	" 12 0 0
Ammonia Alkali	..	£8 10	"to 9 0 0
Bleaching Powder, 35 per cent., carriage paid	..	..	" 25 0 0
Caustic Soda, white, 70 per cent. (net), carriage paid	..	..	" 29 0 0
Caustic Soda, white, 60 per cent. (net), carriage paid	..	£22	"to 28 0 0
Soda, Crystals, bags	..	(delivered)	" 7 10 0
Potash Bichromate	..	..	lb. 0 2 2
Potash, Yellow Prussiate	..	..	" 0 2 0
Soda Bichromate	..	..	" 0 1 0
" Prussiate	..	..	" 0 1 5
Sulphur (Rock Brimstone)	..	..	ton 10 0 0
" (Flowers)	..	..	" 24 0 0
" (Roll Brimstone)	..	..	" 22 0 0
White Lead (English)	..	..	" 100 0 0
Chlorate of Potash, in kegs, F.O.B.	..	..	lb. 0 1 1
" Soda	..	..	" 0 0 5½

MINERALS, ETC.

The markets are still active, and so far there has been no material alteration in prices.

Ochre, English and Irish	..	..	ton £13 10 0
Umbers (Brown and Green Shade)	..	..	" 11 0 0
Reds, Venetian	..	..	" 12 5 0
" Turkey	..	..	" 62 10 0
*Other prices according to shade, quantity, and quality.			
Black, Mineral	..	..	ton £10 10 0
" Carbon (pure)	..	..	" 195 0 0
Pulp, Black	..	..	" 32 0 0
Brown, Soluble (Crystals)	..	..	" 28 0 0
" (Pulp)	..	..	" 12 10 0
Yellow, Imperial	..	..	cwt. 1 12 0
Blue Paste (pure)	..	..	" 24 0 0
Yellows, Lemon, Orange (pure)	..	..	" 4 10 0
Mineral White, Superior No. 1	..	..	ton 3 15 0
" " " 2	..	..	" 2 5 0
" " " 3	..	..	" 1 10 0
Barytes, Best White	..	..	" 15 0 0

All F.O.B. Makers' Works, net.

China Clay of various qualities for all purposes; prices from 35s. to about 75s. per ton f.o.b. Cornwall.

SIZING MATERIALS.

Fine Skin Glue	..	cwt. £8 10 0	to £10 0 0
Common Glue	..	..	£7 10 0

There still continues to be a good demand. With perhaps the exception of one or two grades the prices are practically unaltered.

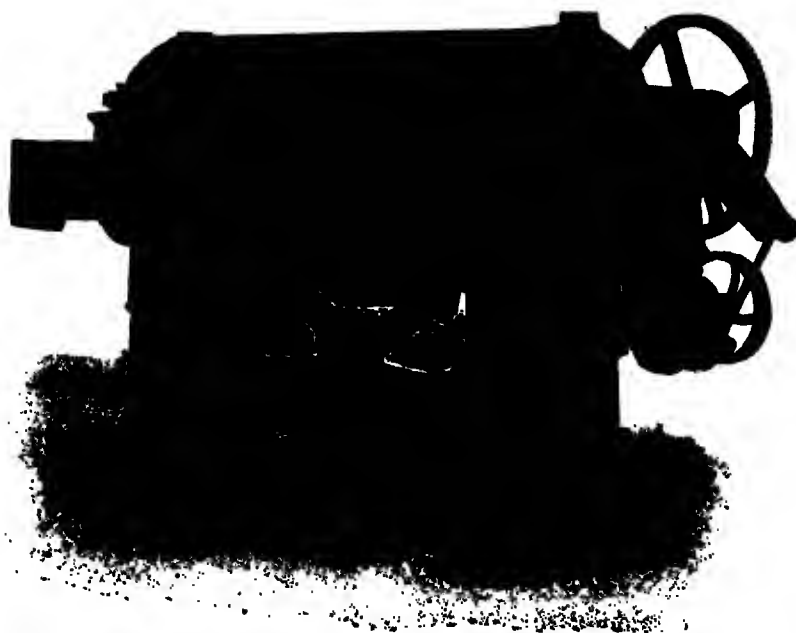
ROSIN.

Business is still very slow owing to unsettled labour conditions. Prices to-day are:—American "B," 46s.; "F.G.," 49s.; French "F.G.," 45s. 6d. Ex-wharf London, nett, usual terms and conditions.

JAMES BERTRAM & SON, Ltd.,

Leith Walk,
EDINBURGH.

Speciality :
PAPERMAKING MACHINERY.



OUR PATENT ROTARY DRUM STRAINER

is the best apparatus now at work. It is absolutely noiseless, works in oil, and needs no attention and few repairs. Stroke can be regulated while at work. Over 200 now running with great success.

Telegrams : "BERTRAM, LEITH."

Telephone : No. 521, LEITH.

FINANCE.

Our financial column this month contains several matters of exceptional interest and there is a good deal of uncertainty in the North regarding a proposed combine, the details of which are an open secret. Messrs. Wiggins, Teape and Co., Ltd., had a splendid response and the applications for debentures largely exceeded those available. The Hartlepool's report is also well worthy of perusal. Report says that a number of gentlemen in the paper trade are having a very uncomfortable time with the authorities in regard to excess profits duty.

Applications were invited recently by Wiggins, Teape & Co., for £350,000 8 per cent. First Mortgage Debentures. The object of the issue was to provide funds for (1) working capital, consequent on the taking over of the Hele Paper Company, Ltd.; (2) additional working capital required in consequence of the rise in the cost of manufacture and the increased output from the company's mills; (3) to meet the additional expenditure in connection with the new photographic base paper mill, due to the increases in the cost of construction. The Debentures will be repayable on or before April 1, 1946, by annual drawings at 102 per cent., commencing in 1922, and sufficient to redeem the present issue by April 1, 1946.

Cheltenham Press, Ltd.—Registered September 25, £2,200 debentures; a general charge.

The Spanish River Pulp and Paper Mills declare a dividend of 1½ per cent. on common stock for quarter ending September 30; a similar dividend has also been declared on preference stock.

London Paper Mills Co., Ltd.—Registered September 27, £250,000 debentures secured by Trust Deed dated September 24, 1920; charged on property at Dartford, Kent, also a general charge.

Applications have been invited by Charles Morgan & Co., Ltd., for 100,000 £1 shares at 21s. 6d. each. The company has an authorised capital of £300,000. The business was established as far back as 1760. During the year 1919 the profits amounted to £35,262, and for the half-year ending June last, £45,000.

The National Paper and Pulp Company (1920), Limited, has been incorporated to take over and acquire as a going concern as from June 30 the Wycombe Marsh Paper Mills and certain cottages, the Loudwater Paper Mills, the King's Paper Mills, all situate at High Wycombe, Bucks, and the warehouses and offices at 66, Upper Thames Street, London, E.C.4, of the National Paper and Pulp Company, Limited, and others, together with the goodwill of that company's business. The mills have been established about 60 years. The capital is £300,000, in Ordinary shares of £1 each. The present issue is at par of 150,000 shares, together with £200,000 8 per cent. First Mortgage Debentures at 98 per cent. The Debentures will be repayable on July 1, 1939, but may be redeemed before that date by the operation of a cumulative sinking fund of 3 per cent. per annum, commencing July 1, 1921, to be applied by the trustees in the purchase in the open market under 103 or by annual drawings at that figure, or at the option of the company at 106 at any time on three calendar months' notice.

The report of A. M. Peebles & Son for the year ended June 30, 1920, states that the balance of profit and loss account, after payment of interest on debenture stock, but before providing for income-tax, excess profits duty and corporation duty, is £49,493, which with £34,364 brought forward makes £83,857. The directors propose to pay a dividend of 5 per cent. and bonus of 5 per cent. (10 per cent. in all) on the ordinary shares, leaving £68,857, from which there has to be deducted income-tax, excess profits duty and also the new duty imposed on corporations. Since the close of the present financial year the directors have purchased for £31,000, freehold warehouse premises at 28, St. John's Lane, and 79-87, St. John Street, E.C., for the purpose of meeting the continually increasing demands of the business. This acquisition and expansion will necessitate the carrying of considerably larger and more varied stocks to meet the general trade requirements, with the resulting increase in book debts and other demands on the company's capital resources. The directors have, furthermore, decided to considerably increase the company's export trade, and agencies and representatives have been established in many important markets of the world. This policy of expansion requires the employment of all the company's available capital resources, and may in the near future necessitate substantial addition thereto in order that the company may maintain its position in the trade, but the directors are fully convinced it is the most sound and justifiable course to adopt in view of the present condition of the trade.

Paid.	Company.	Last Dividend.	Mean Price and Quotations.
1	Amalgamated Press 5% c.p.	5	11-7
1	Annandale & Son, ordy.	10	24/0
5	Do. pref.	5	73/0
1	Associated Newspapers, ordy.	7	18/10½
1	Becker & Co., Ltd. . . .	15	33/0
1	Brunner, Mond & Co. . .	1/3	31/3
7	Do. 7% cum. pref.	7	10½-11½
7	Bury Paper Co., Ltd., ordy.	15	14-15
5	Burley Paper Co., Ltd. . .	20/	14 19
1	Castner-Kellner Alkali . .	2	3½
10	Cassell & Co.	8	15½
1	Darwen Paper Co., Ltd., "C"	10	42/6-2 2½
1	Dickinson (J.) & Co., Ltd., ordy.	10	26/3
Stk. 100	Do. 5% cum. pref.	5	65
Stk. 100	Do. 4½% 1 Mt. Db. Rd., all pd.		58-63
10	East Lancashire Paper Co.	10	19½
10	Do. 6% pref.	10 & 5	22
5	Do. bonus	5	5-5½
1	Electro Bleach & By Products Co. 7% pref.	7	22
5	Guardbridge Paper Co., Ltd.	12/6	10-10½
Stk. 100	Hartlepool Paper Mills, ord.		15/1½
1	Levinstein 4½ def.		90
1	Lloyd (Ed.) 5½% cum. pref.	5½	19/0
1	Marsden (Chas.) & Sons ord.	9	22/6
1	Do. 7½% part. pref.	9	20/6
1	Newnes (George) ord.	15	1-1
1	North of Ireland Paper Co.	12½ & 5	3½-3½
10	Olive Bros.	12½ & 5	17-18
10	Do. fully paid	5	9½
5	Do. pref.	10	5½
5	Olive & Partington 5% pref.	5	3½-3½
1	Owen (T.) & Co. 6% pref.	6	15/6
1	Do. ordy.	20	30/6
5	Pearson (C.A.) 5½% cum. pref.		61/3
5	Peebles (A. M.) & Son . .	9	5½
5	Do. cum. pref.	5	2½-3½
Stk. 5	Do. 5½% debts.	5½	90
5	Ramsbottom Paper ordy.	25	19/6
1	Do. 5% pref.		19/0
Stk. 1	Reed (A. E.) 4½% 1st mort. deb. red.	4½	65
1	Reed (A. E.) 5½% cum. pref.	5½	14/0-15/7½
5	Roach Bridge Paper Co.	10	5½-6½
4	Salt Union ordy. . . .	3/1	25/3
6	Do. 7% cum. pref.	4/4	21/1
Stk. 100	Do. 1st mort. debts.	4½	69½
Stk. 100	Do. "B" do.	4½	64
10	Spicer Bros., 5% cum. pref.	5	6½
5	St. Neots Paper Mill Co., Ltd.	20/0	7½
	Star Paper Mill Co., Ltd (Feniscles) ordy.	20	25/0
5	Do. 10% cum. pref.	10	4½
Stk. 100	Do. 4½% debts.	4½	80
10	Townsend Hook & Co., Ltd.	7	8½
1	United Alkali Co., Ltd., ord.	2/0	1½
10	Do. 7% cum. pref.	7/0	8½
Stk. 100	Do. 5% mort. debts.	5	68½
10	Waterlow & Sons		8½
10	Do. 6½% non-cum. pref. ord.	5/0	5½
10	Do. 4% cum. pref.	4/6	7
10	Waterlow Bros. & Layton ord.	17½	6½
10	Do. pref.	50/0 7	20/1½
1	Wall Paper ordy. . . .	10	13/10½
1	Do. 5% cum. pref.	5	14/1½
1	Wall Paper def.	5	21/6
1	Wiggins Teape & Co. ord.		18/6
1	Do. 7% pref.		

CODES.—A.B.C. 5th & 6th Edition. A.I. Western Union. Marconi. Watkins. Benteys. Private

Phone No.: City 7341
(5 lines)

Telegram: ODONTOID CENT LONDON

BECKER & CO., LIMITED,

34-40, Ludgate Hill, London, E.C.

And at MANCHESTER, PARIS, NEW YORK,
HALIFAX, N.S., CHRISTIANIA, STOCKHOLM, ETC.

THE LARGEST IMPORTERS OF WOOD PULP

AGENTS FOR

CHICOUTIMI PULP CO., Chicoutimi. Canadian
Hot Ground Spruce.
HAI HAI BAY SULPHITE CO., LTD. Port
Alfred, Quebec.
ST. LAWRENCE PULP & LUMBER CO., Gaspé,
Canada. High-Grade Sulphite Pulp.
RIORDON PULP & PAPER CO., Montreal.
Easy Bleaching Canadian Sulphite Pulp.

SISSIBOO PULP & POWER CO., LTD., Weymouth
Falls, N.S.
CLYDE RIVER PULP & PAPER CO., Clyde
River, N.S.
FORSMARK BRUK, Forsmark. Easy Bleaching
Soda Pulp.
SUNDS AKTIEBOLAG, Sundsvall.

AGENTS FOR EUROPE

FOR CROWN WILLIAMETTE SULPHITE CO., LTD., U.S.A.

THE Wood Pulp Maker.

Specially Representing the Interests of the Cellulose and
Wood Pulp Industry.

VOL. LX. No. 5.

NOVEMBER 1, 1920.

[ALL RIGHTS RESERVED.]

PAPER-MAKING IN POLAND.

THE URGENT NEED FOR MACHINERY AND RAW MATERIALS.

THE great battle of Independence which Poland has waged recently promises at last to come to a successful issue, and the possibilities of production of paper by the Polish paper-mills become the cynosure of all eyes in "Paperdom." It would then be well to revise this country's pre-war activities, and one finds that the paper industry then produced not only for home consumption but also for export. At the present day it produces only 20 per cent. of its usual output. The industry was in the old days unevenly distributed, being most actively represented in Congress (Russian) Poland. In 1910 Congress Poland possessed 34 establishments, employing 6,200 workmen, engaged in the manufacture of paper, cardboard, and cellulose, with a production of 39,100,750 francs (\$7,546,445); and in 1914 there were eleven large paper mills located in the Provinces of Warsaw, Piotrkow, and Radom, with a yearly output valued at 3,244,000 roubles (\$1,670). The older mills are found near Warsaw at Jezierna and Soczewka, whereas the newer ones, owing to changed conditions of production, have located near coal regions or supplies of cellulose and wood pulp. Wloclawek, where several paper mills have grown up around a large cellulose plant, is an example of such a point. With the exception of certain high-grade specialities, Congress Poland produced practically all the better grades of paper, including office stationery, elegant papers of medium and high grade, and blotting paper. Very little print paper for rotary presses was manufactured in this district, and that only recently. A large amount of newsprint and cheap wrapping paper was formerly imported from Russia and Finland. Much office stationery was also imported. During the three years of 1899 to 1901 the export of paper from Congress Poland amounted to 12,000 tons, while the imports from Russia were 18,700 tons, and from abroad 3,100 tons. Ten years later, during the three years from 1909 to 1911, exports amounted to 20,000 tons, and imports from Russia to 3,100 tons, and from abroad to 4,500 tons. Polish exports at this time were insignificant and limited to the border districts. Paper mills in Congress Poland are principally in Polish hands, belonging to Polish German families or in part to Jewish families. The workmen and the technical experts employed in these mills are also exclusively Polish.

The production of the paper industry in Congress Poland for 1912 was as follows:—

Mechanical and chemical wood pulp	tons	33,800
Pulp and strawboard and corrugated board for packing	.. .. tons	7,900
Writing and print paper	.. .. tons	20,400
Silk paper, vellum, and filter paper	tons	12,800
Wrapping paper	.. .. tons	9,270
Coloured paper	.. .. tons	5,770
Dyed paper	.. .. meters	26,000
Wall paper	.. .. rolls	2,007,000
Glacé, cardboard and parchment	tons	912
Tarred paper	.. .. rolls	92,000
Cigarette paper	.. .. books	7,100,000
Cigarette mouthpieces	.. .. boxes	51,000
Envelopes	.. .. thousands	4,393
Cornucopias, spools, etc.	.. .. tons	999
Covers, blank books, cases, albums, boxes, paper lace for confectioners, etc.	.. .. francs	1,330,000
Papier maché	.. .. francs	583,000

The Galician mills before the war produced all grades of paper, and the manufacture of newsprint was more broadly developed than in Congress Poland on account of the abundance of wood and water power. Beside large amounts of cigarette paper and mouthpieces, almost all Galician factories turned out wood pulp. Galicia, though partly able to satisfy home consumption, imported from other sections of the Austrian Empire, and had also worked up a fairly profitable export trade in Turkey and the Balkans, reckoned at 6,000,000 crowns (\$1,218,000) annually. The workmen in Galicia were generally Poles or Ruthenians, but among the owners, as well as the experts and higher class of workmen, there was a notable percentage of Jews and Germans. In 1914 there were 12 paper mills running in Galicia, among them four large ones employing more than 500 workmen each. The principal centre of the pulp and paper industry was Zassow, in Eastern Galicia. In the Teschen district there were before the war three paper mills, while Prussian Silesia, Poznan (Posen) and East Prussia possessed no paper industry worth mentioning, though consuming more paper per head than any other Polish district, owing to the high level of popular education.

Paper-making machines were formerly imported exclusively from France and England. For a number of years preceding the war, however, Germany controlled the sale of this machinery in Polish territory. American firms were competing in the sale of rotary presses.

Both native and Russian rags were used in Congress Poland. Some selected varieties of cotton rags were also imported from Germany. Large shipments of rags were at the same time exported from Russian Poland to Germany and Austria. In the period 1909 to 1911 this export amounted to 9,300 tons from Russia and 4,400 tons abroad. Imports amounted to 21,600 tons from Russia and 14,400 tons from abroad. This last figure represents almost exclusively woollen rags which the paper industry does not use while the import from Russia comprise paper (linen and hemp) rags entirely. There is but one cellulose factory in Congress Poland, located at Wloclawek and belonging to the Berlin firm of S. & M. Cassirer. It engaged 700 workmen, but its productions were insufficient for local requirements. The production of cellulose in Congress Poland in 1910 amounted to 20,000 tons, in 1911 to 22,600 tons, and in 1912 to 26,200 tons, an increase of 31 per cent. in three years. The disposal of the chemical residues from cellulose factories has been a hindrance to their foundation in Poland. The country was, therefore, dependent on Russia and foreign countries for a supplementary supply of cellulose pulp, and in 1911 5,150 tons were imported from abroad and 10,000 tons from Russia. It is estimated that Galicia can now produce half the amount formerly purchased abroad, and the cost of paper production should also be materially lowered by direct importations of Finnish pulp by water through Danzig. In December, 1919, plans were on foot at Danzig for the formation of an eight-million mark stock company for manufacturing newsprint, wrapping paper, cartboard, and roof board. As Danzig is estimated to consume 3,300 tons of newsprint a year, the organisers plan to dispose of one-third of their output locally, sell one-third in the former German Provinces, and ship the rest to Poland and the adjacent Russian districts. The shortage and seizure of factory machinery practiced by both Russians and Germans in Congress Poland has contributed to the disintegration of the paper industry, which requires not only machinery, but also felt, brass rivets, and resin. The monthly production of the Polish paper industry in March, 1920, was estimated at 95 carloads, or 20 per cent. of pre-war output. The situation in Galicia is more favourable for production than in Congress Poland, owing to the preservation of machinery.

REVISION OF FINNISH EXPORT FREE LIST.

CAPT. L. NORRGREN, Consul-General for Finland, 28 and 29, St. Swithin's Lane, London, E.C.4, informs us that the Finnish Ministry of Trade and Industry issued a new export free list on June 17, 1920, comprising all the goods free for export and replacing the previous export free list, which was issued by the same Ministry on September 23, 1919. The following goods may now be exported without licence:—

No. in Finnish Customs Tariff.	ARTICLES. PAPER.
400	Wood pulp, chemical or mechanical.
404-5	Pasteboard, not specially mentioned in the tariff, of wood pulp or cellulose.
409-15	Paper of all kinds.
416-442	Paper manufactures of all kinds.

In addition to the above mentioned goods the following articles have also been declared free for export by an Order of the same Ministry of July 7:—

No. in Finnish Customs Tariff.	Article.
694-696	Paper machines of Finnish manufacture.

AUSTRALIAN NEWS.

Another Wood-pulp Substitute.

THE suitability of Australian mountain gum for paper manufacture was touched upon in a reply given by the Government representative to Dr. Creed in the Legislative Council. Mr. Kavanagh said that 12 tons of mountain gum had been sent for a test to McGill University, Canada, in 1918. Only one progress report had been received, showing *inter alia* that the rate of growth of the Australian tree was much greater than that of spruce. The lignum content was low, and the cellulose content fairly high. As no further report was expected, a Government committee was arranging for a small pulping plant to be laid down to try out a bulk parcel of timber on a semi-commercial basis.

Finance.

AN important amalgamation of two Melbourne and Sydney industries has been agreed upon by the respective controlling boards. Negotiations carried on by the directors of the Australian Paper Mills Co., Ltd., Melbourne, and of the Sydney Paper Mills Co., Ltd., have resulted in an agreement for the amalgamation of the two concerns. It is proposed to form a new company, to be called The Australasian Paper and Pulp Co., Ltd., with a nominal capital of £950,000, which will acquire the assets of both companies, and issue shares pro rata to the shareholders of each company in payment of same. The amount of the paid up capital has not yet been fixed, but will be based on the valuations of the assets of the two companies, which at present have not been fully completed. The new company will be registered in Victoria, with its head office in Melbourne. The directors of the Australian company point out that one of the lessons of the war has been to impress upon the Australian people, and particularly manufacturers, the necessity for obtaining in Australia as far as possible those things essential to the carrying on of their industries. During the war period one of the commodities the want of which was most seriously felt was paper. The scarcity and high price were felt by every section of the community, and the mills of both companies were taxed to their utmost to relieve to a small extent the seriousness of the situation. Since the termination of the war the position in this regard has not improved, and the scarcity is still great. In addition, there is a world shortage. Australia is affected seriously, and the directors consider that the proposed amalgamation is the first step towards meeting the deficiency, as it will make possible a much larger expansion of the Australian industry.

LARGE JAPANESE PAPER PULP OUTPUT.

A Reuter's Trade Service states: The demand for pulp for papermaking in Japan is increasing yearly on account of the paper manufacturing industry. The production of wood pulp in this country, though gradually on the increase, is not in keeping with the large and growing demand, and the national paper industry has to look to imports of the foreign manufacture to fill the shortage in the supply of raw materials. According to the latest official investigations, the total output of wood pulp in Japan last year was 235,227 tons, against 169,039 tons in the previous year. The import of the foreign manufacture during last year reached 40,581 tons, while 1,106 tons of the Japanese product were exported abroad during the same year.

AMONGST a list of goods which can be imported into Bulgaria without previous authorisation are:—Rosin, paper waste, etc., for the paper industry.

GENERAL AND FOREIGN NEWS.

Under a commercial treaty the export of paper from Austria to Roumania is permitted.

A DUTY of 10 marks per 1,000 papers is fixed by the German Government on all cigarette papers imported into the country.

THE Japanese Government has applied for the patents of a liquid which renders paper untearable in order to use it for bank notes, military maps, stamps and umbrellas.

THE imports of books, printed matter, paper, and stationery into Lithuania during the first six months of 1920 amounted in value to 4,477,911 marks. There were no exports.

THE Commercial Secretary to His Majesty's Legation at Athens reports that a local engineering firm is desirous of getting into touch with United Kingdom manufacturers of machines for producing paper of all trades. Further particulars may be obtained from the offices of the Department of Overseas Trade, 35, Queen Street, London, S.W.1.

It is reported that the old sugar mills of Para have now been turned into a pulp producing factory. The shortage of wood pulp is undoubtedly stimulating invention in other directions, and in addition to the South American product, experiments are being tried out with peat and seaweed. From Canada, one of our staple sources within the Empire of pulp supply, comes encouraging news of still greater production, while American enterprise is apparently to exploit the wood resources of Alaska.

THE *Journal Officiel* for October 1 contains a Presidential Decree approving a Deliberation of the Council of New Caledonia which provides for the establishment of an internal consumption duty on playing cards, whether imported into or manufactured in the Colony. The rate of the duty is as follows:—On French cards: Per pack of more than 36 cards, 2 francs; per pack of 36 cards, or less, 1 franc 50 cents. On foreign cards: Per pack of any number of cards, 2 francs. The tax on imported cards is payable at the same time as the Customs import duty.

NOTICE has been given to the Austrian Government of the adoption of the Clearing Office scheme for the settlement of pre-war debts between this country and Austria. It is not intended to adopt the Clearing Office scheme in the case of Bulgaria, but British creditors who, after taking all reasonable and proper steps, are unable to recover the amount of their debts from their Bulgarian debtors will be entitled to rank for dividend against Bulgarian property in this country charged in accordance with the Treaty of Peace.

DEALING with the trade and economic position of Turkey, Trade Commissioner Capt. C. H. Courthope-Munroe, in his report, states that in pre-war days this country obtained its paper supplies from Sweden, as the United Kingdom was unable to compete. The obvious reason for this was that the United Kingdom imported pulp from Sweden for the manufacture of paper, and importers of this article in Turkey found it cheaper to buy the paper direct from Sweden and thus avoid the middleman. A certain amount of paper was also supplied by Austria and Germany. At present

paper is being received from Sweden, and also, through Trieste, supplies of what is presumably Austrian paper. Swedish firms have notified that they are not in a position to supply newspaper in sheets, and if British firms are in a position to do so they would find a good opening.

THE manufacture of pulp and paper is developed in Rumania to a fairly considerable extent. This country in pre-war days was self-supporting in regard to most lines of paper, only certain specialties, such as letter paper, blotting paper, wallpaper bond papers, etc., requiring to be imported from abroad. On the other hand there was an export of cellulose from Roumania amounting in 1913 to 3,619 tons, valued at \$164,091. At the time of the German occupation there was the pulp and paper mills in operation and one mill under construction. The quantity of pulpwood consumed by the mills in 1913 was 75,000 tons. The production of newsprint paper in that year was 56,54 tons, valued at \$2,110,303. At the present time only four paper mills are in operation and there is an acute shortage of paper of all kinds, especially newsprint.

THE Cuban market for paper and paper products was treated exhaustively in an article which recently appeared in the *Canadian Weekly Bulletin*. It was there pointed out that Cuba promised an excellent market for many varieties of paper products. Except for newsprint, however, the American preference would make it difficult for Canadian paper products manufacturers to compete in Cuba. Contracts for 2,000 tons of Canadian newsprint have been made by Cuban dealers, out of an estimated total consumption this year of 10,000 tons. As the United States has itself to buy such large quantities of Canadian newsprint, it would appear to be wise for Canadian manufacturers to enter into contracts direct with Havana publishers to supply all their newsprint. This would mean a greater degree of independence for Canadian foreign trade and more business for Canadian vessels.

OPENINGS FOR BRITISH PAPER TRADE.

An agent in Copenhagen desires to represent a British paper manufacturer. (Reference No. 378.)

A firm in Riga is desirous of obtaining samples and prices of blotting paper, tracing paper, tissue paper, note-paper, ink and other stationery. (Ref. No. 511.)

A Spanish buying agent at present in London desires to get into touch with firms dealing in the following articles: Newsprint, tissue paper, enamelled box lining paper, litho printing, etc. (Ref. 485.)

A Wellington firm desires to get into touch with United Kingdom manufacturers of hardware, paper and stationery with a view to representing them as agents for the whole of the Dominion of New Zealand. (Ref. No. 405.)

H.M. Consul, Seville, reports that a commission agent of that town is desirous of getting in touch with British firms engaged in the general import and export business. (Reference No. 542.)

[Unless otherwise stated, inquiries relating to the foregoing should be made personally or by letter to the Department of Overseas Trade (Development and Intelligence), 73, Basinghall Street, E.C.2.]

THE WOOD PULP MARKETS

CHEMICAL.

LONDON.—The market is very unsettled, and this unsatisfactory condition is greatly accentuated by the trouble with the miners. Business generally is slow, and probably odd lots may be picked up at slightly easier figures. Bleached sulphite is costing from £80 to £82 per ton in the mill, and easy bleaching is quoted about £52 to £55. There appears to be little prospect of the market settling down for some time to come.

MECHANICAL.

LONDON.—Buying appears to be "hand to mouth" as regards orders placed recently, and £17 5s. to £17 10s. is somewhere near the cost of moist mechanical to-day. There is a distinct disposition on the part of buyers to take matters easier, and as regards the "news" mills they are not disposed to take undue risks in view of foreign competition, which is having a serious effect on the outlook.

CHEMICAL.

MANCHESTER.—Market dull and very little change to report. The fact that a number of mills are badly affected by the coal strike has made a difficult position worse.

MECHANICAL.

MANCHESTER.—Very little doing, and practically no change in prices. There is a disinclination on the part of the mills to do business during the present state of uncertainty.

CHEMICAL.

NEW YORK.—Market reports exhibit a somewhat quiet tone, and sulphite prices have eased somewhat. Other grades are firm.

MECHANICAL.

NEW YORK.—There continues to be a scarcity of mechanical pulp, and there is a strong feeling that the market will tighten up.

CHEMICAL.

GOTHENBURG.—A dull market for sulphite is reported, with quotations firm. America is stated to be the principal buyer. The United States is also the purchaser of kraft pulp.

MECHANICAL.

GOTHENBURG.—Important sales of "moist" to America are reported, and one authority states that it is obvious that the European market will stiffen if other projected large sales to the United States materialise.

CHEMICAL.

CHRISTIANIA.—There is a rather heavy demand for cellulose, and the market is stated to be uninfluenced by the unsettled conditions in England.

MECHANICAL.

CHRISTIANIA.—A somewhat quiet market is reported for moist mechanical. Prices, however, are still firm owing to the strong demand from America being still uncovered.

REVIEWS.

PAPER AND ITS CONSTITUENTS: A Manual of Technical Methods. By HENRY ALDOUS BROMLEY, F.C.S., of H.M. Stationery Office. Published by E. and F. N. Spon, Ltd. Price, 15s. net; 15s. 7d. post free (U.K.), and 16s. post free abroad.

As stated in the author's preface the greater part of the matter in this text book appeared originally in the pages of THE PAPER-MAKER from February, 1914 onwards, and we heartily congratulate Mr. Bromley upon having yielded to the numerous recommendations he has received to collate the articles in book form. This he has done, not forgetting to include the most up-to-date aspects of the subject within its scope. The contents are divided into three parts, the first consisting of a reference to the chemistry of cellulose and a description of the common paper-making fibres. The second part covers general chemistry for paper-making, analysis of raw materials, bleaching agents, and bleaching, mineral pigments, dyestuffs, etc., while under Part III are dealt with such subjects as the microscopy of paper, the physical and chemical properties of paper, the quantitative chemical analysis of paper, and special classes of paper. Altogether, the work serves a very useful purpose in that it will help towards an understanding of paper problems and their solutions. Mr. Bromley's work does not attempt to be a classic, but is, nevertheless, a creditable contribution to contemporary literature on paper-making.

PAPER PRICES INQUIRY UNNECESSARY.

FOLLOWING the announcement of the Board of Trade that "all printing papers" were to be brought under the Profiteering Acts from October 20, it was announced that, after carefully considering the reasons advanced for the appointment of a Committee to investigate charges of profiteering in printing paper, the Board of Trade has decided that the evidence adduced does not justify the inquiry.

It is announced by the Latvia Legation that in order to obtain a license for the exportation of timber from Latvia the applicant must either:—(1) Undertake to import into Latvia within two months, with the proceeds of the exported timber, goods required in that country; or (2) place at the disposal of the Latvian Government 75 to 80 per cent. of the foreign valuta obtained for the timber (the export prices f.o.b. Latvian ports being fixed by the Latvian Government). In exchange for this deposit the exporter receives from the Latvian authorities Lettish roubles at an officially fixed rate of exchange, which appears to be considerably below the current market rate. In addition to the above regulations, an Order issued on September 22 increased the duties on timber exported from Latvia to the following rates:—Hewn and sawn wood 35 per cent. of the value; pit props and wood for paper-making, 25 per cent. of the value.

BOARD OF TRADE RETURNS OF IMPORTS OF PAPER AND PAPER-MAKING MATERIALS FOR THE MONTHS OF SEPTEMBER, 1913, 1919 & 1920.

		QUANTITIES.			VALUE.		
		1913.	1919.	1920.	1913.	1919.	1920.
Imports of Paper—FOR PRINTING OR WRITING:					£	£	£
On reels.	From Sweden	35,733	18,330	—	20,596	24,701	—
	„ Norway	84,784	21,325	—	45,680	37,736	—
	„ Germany	11,767	—	—	8,295	—	—
	„ United States of America	4,380	15,223	—	2,228	23,948	—
	„ Newfoundland	103,307	201,760	—	51,644	321,272	—
	„ Other Countries	21,262	93,239	—	11,857	144,742	—
Total		261,233	340,886	—	140,300	552,509	—
No reels.	From Sweden	10,526	440	—	6,868	667	—
	„ Norway	35,218	7,397	—	20,995	16,338	—
	„ Germany	26,684	—	—	24,702	—	—
	„ Belgium	6,553	72	—	6,251	889	—
	„ United States of America	2,683	2,410	—	5,410	8,826	—
	„ Other Countries	6,833	1,820	—	9,174	9,267	—
Total		88,497	11,030	—	73,439	35,987	—
PAPER, PRINTED							
Hangings	From Germany	1,174	—	—	2,937	—	—
	„ Belgium	670	1	—	1,645	18	—
	„ Other Countries	266	236	—	1,975	1,534	—
Total		2,050	237	—	5,657	1,552	—
Other Printed or Coated Papers	From Germany	3,808	—	—	10,147	—	—
	„ Belgium	3,109	2,060	—	6,010	10,301	—
	„ France	245	71	—	1,173	863	—
	„ United States of America	836	626	—	2,307	6,652	—
	„ Other Countries	242	43	—	610	667	—
Total		8,440	2,800	—	21,537	18,483	—
Paper : Printing, not coated, and Writing Paper in Large Sheets :							
From	Sweden	—	85,140	—	—	—	25,682
	„ Norway	—	50,710	—	—	—	192,041
	„ Germany	—	30,460	—	—	—	86,654
	„ Belgium	—	2,097	—	—	—	9,682
	„ United States of America	—	1,942	—	—	—	10,540
	„ Newfoundland	—	40,580	—	—	—	126,275
„	Other Countries	—	80,133	—	—	—	231,355
	Total	—	300,071	—	—	—	613,829
Packing and Wrapping, including Tissue Paper :							
From	Russia	22,441	11,010	20,061	11,158	24,795	75,051
	„ Sweden	94,401	34,600	150,817	60,252	84,634	497,251
	„ Norway	92,120	57,362	72,078	57,180	147,641	250,052
	„ Germany	77,550	—	20,908	63,894	—	71,024
	„ Belgium	20,998	1,458	9,143	17,331	6,988	41,821
	„ Other Countries	16,236	34,115	27,376	15,556	97,205	113,628
Total		323,896	138,545	306,383	225,371	361,263	1,049,427
Coated Papers.	From Germany	—	—	5,785	—	—	23,232
	„ Belgium	—	—	3,139	—	—	19,673
	„ France	—	—	341	—	—	6,001
	„ United States of America	—	—	505	—	—	6,248
	„ Other Countries	—	—	1,655	—	—	7,746
Total		—	—	11,485	—	—	62,900
STATIONERY		—	—	4,567	—	—	33,374
MILLBOARD, LEATHER BOARD, CARDBOARD, AND PASTEBOARD		111,355	94,636	177,320	56,940	142,012	403,235
STRAWBOARD		277,500	247,532	173,192	77,887	194,132	165,184
OTHER SORTS		13,263	6,377	28,705	41,976	61,063	178,333
Total Imports of Paper and Cardboard		1,086,134	851,961	1,010,723	643,107	1,367,001	2,806,282

**Board of Trade Returns of Imports of Paper and Paper-Making Materials for the
Months of September, 1913, 1919 & 1920 — continued.**

	QUANTITIES.			VALUES.		
	1913.	1919.	1920.	1913.	1919.	1920.
Imports of Paper-making Materials :						
PULP OF WOOD : Chemical : Dry, Bleached :				£	£	£
From Russia tons	116	70	1	1,160	2,450	50
.. Sweden "	136	25	531	1,362	869	36,657
.. Norway "	1,304	490	1,335	14,441	17,665	71,675
.. Germany "	131	—	—	1,585	—	—
.. Other Countries "	277	1,123	5	2,854	44,285	403
Total "	1,964	2,008	1,872	21,382	65,269	108,785
Chemical : Dry, Unbleached :						
From Russia tons	2,286	101	3,152	18,446	2,300	141,028
.. Sweden "	21,092	26,410	22,996	170,877	604,733	986,245
.. Norway "	4,351	7,028	8,358	35,731	191,478	325,301
.. Germany "	5,744	—	1,356	47,433	—	75,020
.. Other Countries "	205	4,642	3,832	2,265	111,997	201,474
Total "	33,741	38,781	39,694	274,752	910,508	1,729,068
Total of Chemical Dry Pulp of Wood "	35,705	40,780	41,566	296,134	975,777	1,837,853
Chemical : Wet tons	921	349	4,180	3,354	4,786	124,784
Total of Chemical Pulp of Wood "	36,626	41,138	45,746	299,488	980,563	1,962,637
Mechanical, Dry tons	198	916	1,731	2,351	13,998	47,892
Mechanical, Wet :						
From Sweden tons	12,166	13,005	8,556	27,081	25,387	149,038
.. Norway "	21,615	14,114	22,810	51,712	115,995	275,804
.. Canada "	16,116	28,154	6,632	35,048	200,891	185,233
.. Other Countries "	9,296	2,038	5,897	21,661	16,135	109,695
Total "	62,133	47,620	40,895	138,595	418,408	719,770
Total of Mechanical Pulp of Wood "	62,331	48,539	48,626	140,850	432,406	767,662
Total of Pulp of Wood "	99,257	89,677	91,372	440,347	1,412,989	2,730,290
ESPARTO, AND OTHER VEGETABLE FIBRES, including WASTE :						
From Spain tons	1,193	3,632	1,711	7,780	48,471	45,698
.. Algeria "	9,137	146	3,756	30,548	1,752	64,035
.. Other Countries "	4,481	1,593	1,186	13,783	10,714	25,281
Total "	15,111	5,371	6,653	52,111	60,937	135,014
LINEN and COTTON RAGS tons	2,570	710	822	26,851	19,198	29,917
PAPER-MAKING MATERIALS, not elsewhere specified "	1,130	106	426	9,395	2,477	10,817
Total Values of Paper-making Materials "	—	—	—	528,701	1,501,581	2,906,047
Imports of Chemicals : BLEACHING MATERIALS cwts.	9,982	—	486	2,516	—	6,162
IRON PYRITES (including Cupreous Pyrites) tons	48,841	20,581	61,906	89,242	68,577	205,823
ROSIN cwts.	16,006	331,562	134,100	61,401	764,369	304,593
GLUE, SIZE, and GELATINE "	20,015	5,545	12,678	41,373	54,652	84,369

J. A. NORDBERG, Ltd.
30/31, Queen Street, LONDON, E.C.

CHEMICAL & MECHANICAL WOOD

Supply all kinds of **PULPS**

IF YOU ARE BUYING PAPER

COMMUNICATE WITH—

PARSONS TRADING COMPANY

HEAD OFFICE:

**Whitehall Building,
17, Battery Place, New York.**

CHIEF OFFICES FOR EUROPE

**Temple Bar House, 23/28, Fleet St.,
London, E.C.**

OTHER OFFICES:

**Sydney, Melbourne, Wellington,
Bombay, Adelaide, Stockholm,
Havana, Mexico City, Buenos Aires,
and Selling Representatives through-
out Latin America and the Far East.**

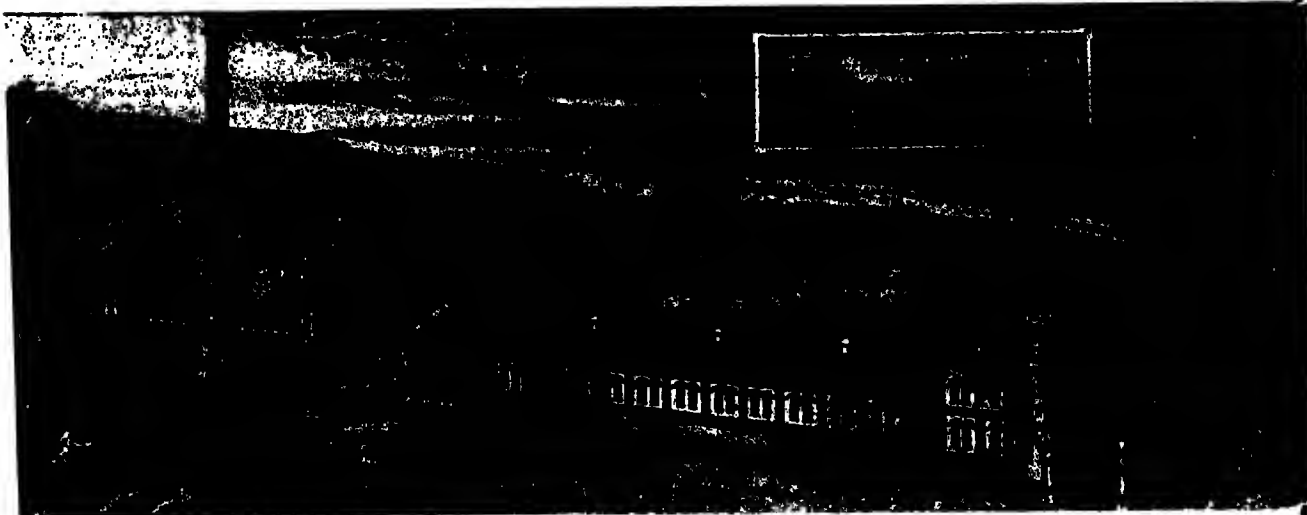
CABLE ADDRESS OF ALL OFFICES: "PARTRACOM."

Telegrams: "Ferganya, Drammen."

Aktieselskabet

PHÖNIX PAPIRFABRIK

DRAMMEN, NORWAY.



SPECIALITIES { **Thin Glazed and Unglazed Greaseproof
Manifold Papers. Bankpost.**

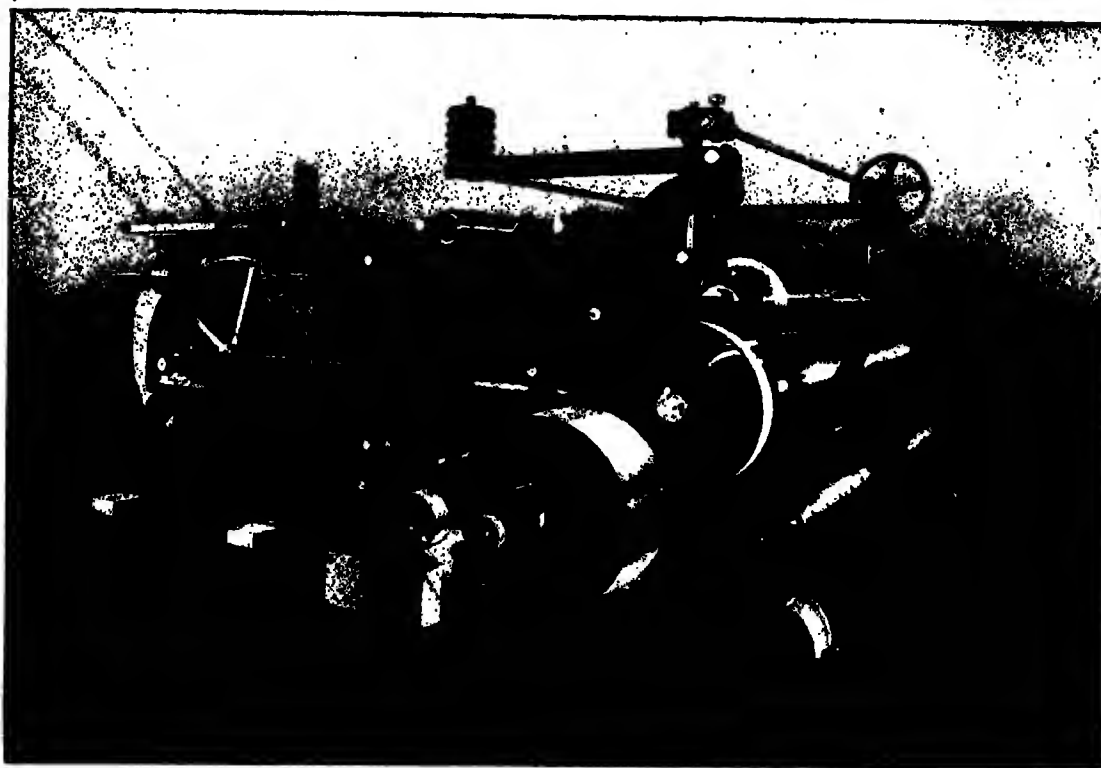
BOARD OF TRADE RETURNS OF EXPORTS OF PAPER AND PAPER-MAKING MATERIALS FOR THE MONTHS OF SEPTEMBER, 1913, 1919 & 1920.

					QUANTITIES.			VALUES.		
					1913.	1919.	1920.	1913.	1919.	1920.
								£	£	£
Exports of British Paper :										
Printing not coated.	To France.. .. .	..	..	..	9,459	6,625	3,789	12,071	23,941	19,274
	„ United States of America .. .. .	..	..	..	712	520	603	848	3,371	7,615
	„ Other Foreign Countries .. .. .	..	..	..	40,028	7,730	24,052	44,177	32,422	119,228
	„ British South Africa .. .. .	..	..	..	8,873	4,888	6,861	9,604	16,831	33,490
	„ British India .. .. .	..	..	..	19,096	4,435	35,864	18,496	14,139	168,089
	„ †Straits Settlements .. .. .	..	..	..	1,263	151	1,739	1,262	688	7,524
	„ Ceylon .. .. .	..	..	..	2,183	578	2,126	2,268	6,262	12,697
	„ Australia .. .. .	..	..	..	47,642	478	25,977	33,703	1,906	100,853
	„ New Zealand .. .. .	..	..	..	11,419	1,208	4,822	9,982	3,648	22,198
	„ Canada .. .. .	..	..	..	6,076	22	61	8,590	33	409
„ Other British Possessions					3,402	4,304	5,917	3,260	8,631	25,066
Total					151,653	28,939	111,811	144,201	111,872	516,743
Writing paper in large sheets	To France .. .. .	..	..	..	304	2,773	2,511	1,434	13,589	13,750
	„ United States of America .. .. .	..	..	..	344	90	107	1,088	1,985	1,244
	„ Other Foreign Countries .. .. .	..	..	..	4,402	1,650	3,104	10,766	13,507	27,738
	„ British South Africa .. .. .	..	..	..	1,606	211	705	3,048	1,800	5,449
	„ British India .. .. .	..	..	..	2,076	1,900	7,398	4,892	9,061	46,475
	„ †Straits Settlements .. .. .	..	..	..	478	86	510	934	603	4,544
	„ Ceylon .. .. .	..	..	..	304	74	456	677	600	2,756
	„ Australia .. .. .	..	..	..	5,768	792	6,100	11,103	3,862	35,974
	„ New Zealand .. .. .	..	..	..	2,738	433	1,985	1,463	2,415	12,108
	„ Canada .. .. .	..	..	..	574	14	24	1,275	141	359
„ Other British Possessions					643	600	1,836	1,051	4,140	11,786
Total					10,297	8,632	24,835	11,931	51,721	162,189
PACKING AND WRAPPING					81,402	30,395	20,147	32,937	38,005	178,580
ISSUE PAPER										
COATED PAPERS: Printed and Embossed Paper Hangings					6,809	4,030	9,580	15,568	25,337	62,945
Other Sorts, except Waterproof Wrappings, Roofing Paper, and Sensitised Photographic Paper										
Roofing Paper, Tarred and other					2,205	965	3,023	10,800	13,606	30,375
STATIONERY: Envelopes, not including Box Stationery					—	—	28	—	—	136
Other sorts					2,731	2,070	5,117	7,043	13,534	41,020
					—	—	14,351	—	—	191,613
Total					2,731	2,070	10,468	7,043	13,534	232,642
PAPER BAGS					3,718	571	2,254	4,240	2,196	10,783
BOXES and CARTONS of PAPER and CARDBOARD (including FOLDING BOXES)					3,518	686	2,031	6,688	5,037	13,650
MILLBOARD, STRAWBOARD, CARDBOARD, &c.					12,584	4,555	8,152	10,917	10,265	37,325
PLAYING CARDS					11,667	5,992	9,958	2,657	2,437	5,995
					348	148	238	—	—	—
Other Manu- facturers of Paper not elsewhere specified.	To France .. .. .	..	..	..	586	148	76	4,369	861	975
	„ United States of America .. .. .	..	..	..	114	117	107	433	917	2,377
	„ Other Foreign Countries .. .. .	..	..	..	2,418	2,315	3,272	5,302	12,342	30,019
	„ British South Africa .. .. .	..	..	..	537	250	480	1,180	1,603	4,272
	„ British East Indies .. .. .	..	..	..	800	463	1,590	2,042	3,406	15,170
	„ Australia .. .. .	..	..	..	1,153	182	1,166	3,204	1,585	9,527
	„ New Zealand .. .. .	..	..	..	249	442	436	538	3,111	5,172
	„ Canada .. .. .	..	..	..	265	241	200	955	1,160	2,600
„ Other British Possessions					39	241	2,232	143	1,550	15,771
Total					6,161	4,399	9,568	18,166	26,535	85,883
Total Exports of British-made Paper and Cardboard					290,426	85,396	212,460	295,217	300,635	1,260,757

† Including Federated Malay States and Labuan.
1920, now included in‡ Included Notepaper and other kinds of paper for writing, prior to
" Stationery, other Sorts "—same group.



BOVING & Co. Ltd.



We investigate and report on pulp mill developments in any part of the world.

We design, equip, construct and start up complete mills for sulphite, soda, sulphate or mechanical pulp.

Manufacturers also of complete papermaking & cardboard plants.

Head Office,

**56, Kingsway,
London, W.C.2.**

*Branches and Agencies in
MANCHESTER, FRANCE
SWEDEN, AUSTRALASIA
JAPAN, S. AMERICA
CANADA, — ETC*

WORKS: STOKE-ON-TRENT, STAFFS.



**BOARD OF TRADE RETURNS OF EXPORTS OF PAPER AND PAPER-MAKING MATERIALS
FOR THE MONTHS OF SEPTEMBER, 1913, 1919 & 1920.—continued.**

	QUANTITIES.			VALUES.		
	1913.	1919.	1920.	1913.	1919.	1920.
Exports of Foreign and Colonial Paper and Boards :				£	£	£
FOR PRINTING OR WRITING : On reels cwt.	39,406	—	—	18,142	—	—
Not on reels	9,910	162	—	6,660	503	—
PRINTED PAPER HANGINGS	30	—	—	243	—	—
OTHER PRINTED or COATED PAPERS (except SENSITISED PHOTO-GRAPHIC PAPER)	67	3	—	456	52	—
PRINTING, not COATED, and WRITING PAPER in large sheets	—	—	1,799	—	—	11,156
PACKING and WRAPPING, including TISSUE PAPER	5,680	131	1,901	4,529	377	11,911
COATED PAPERS	—	—	77	—	—	737
STATIONERY	—	—	28	—	—	245
MILLBOARD, LEATHER BOARD, CARDBOARD and PASTEBOARD	344	160	3,604	271	485	8,820
STRAWBOARD	1,198	—	148	854	—	141
OTHER SORTS	1,623	82	1,583	7,305	2,028	24,654
Total Exports of Foreign and Colonial Paper and Cardboard	58,264	544	9,140	38,460	3,445	57,664
Exports, Foreign and Colonial, of :						
PULP OF WOOD : CHEMICAL : DRY tons	1,777	—	340	14,258	—	12,385
LINEN AND COTTON RAGS	1,078	—	—	10,693	—	—
Total	—	—	—	24,951	—	12,385
OTHER ARTICLES	—	—	—	3,694	363	34
Total Value of Foreign and Colonial Paper-making Materials	—	—	—	28,645	363	12,419

TWENTY-FOUR YEARS AGO.

JOTTINGS FROM "THE PAPER MAKER," NOVEMBER, 1896.

MR. HERBERT PARTINGTON was returned County Councillor for Glossop on the 1st inst.

BENTLEY AND JACKSON, LTD., BURY.—This eminent firm of engineers have received a cablegram to the effect that the paper-making machine which they shipped out to the order of the Marshall Engine Co., of Turner's Falls, Mass., U.S., has been started up successfully, without a hitch.

CHARLES WALMSLEY AND CO., LTD., paper-makers' engineers, Bury, have received an order from Yates, Duxbury and Co., for a pair of inverted compound steam engines of a very powerful type for their Leap Bridge Mill. Messrs. Walmsley and Co., Ltd., are making a big reputation for steam engines for paper mills.

MR. PETER LOWE is another of those who have joined the great majority since our last issue. This able and experienced manager of C. and G. J. Potter's important engineering department at Darwen died unexpectedly on November 1, after a short illness, in the course of which he underwent an operation, which there was every reason to believe had been successfully performed.

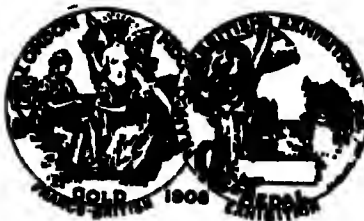
A COMPANY is about to be formed in New York, it is said, in order to manufacture paper bottles. These can be produced, it is stated, at about one-half the cost of glass bottles, are practically unbreakable, save expenses in packing, and may be used for everything for which glass bottles are now used. Another paper novelty, a bicycle saddle, will shortly be placed on the market.

MR. WILLIAM JOHN PORRITT, senior partner in the firm of Joseph Porritt and Sons, of Bilmshore, manufacturers of paper-makers' felts, died on October 30, at the age of 68, after suffering two months from a malady

brought on, or at any rate aggravated by, overwork. He was one of the founders of St. Anne's-on-Sea, a flourishing little watering-place on the Lancashire coast between Blackpool and Lytham.

ON November 12, Charles Harbury, aged 17, met with a fearful death at the Old Mill paper works of Marsden and Son, Barnsley. Deceased, who was engaged in charge of a damping machine, driven by a strap and pulley from the central shaft, which revolves at a great speed, was caught in the strap, whirled violently round the pulley, and dashed bleeding and dying to the floor in a couple of seconds. One arm and one leg were torn off. At the inquest it was elicited that the deceased was repairing a strap, a proceeding which he had been repeatedly cautioned against. The jury considered the occurrence purely accidental, and returned a verdict accordingly.

NATIONAL UNION OF PAPER MILL WORKERS.—At a meeting of paper mill workers in the Alexandra Hall, Maidstone, on Sunday, the 1st inst., Mr. John Potter in the chair, the following resolution was unanimously adopted: "That this meeting of paper mill workers of Maidstone and district hereby expresses its conviction that the best practical way to obtain the two o'clock system generally is to make an organised application at one date to our employers, and we pledge ourselves to try and carry this out by actively supporting the efforts of the National Union to organise all paper mill workers not already in any society. We therefore resolve that a branch be now opened for Maidstone and district." A similar meeting was held at Bury on the 8th inst., Mr. W. Russ, general secretary, said the Union was prepared to deal with all complaints as regards the hours, etc., if the men would only organise themselves effectively, and lay their cases before the branch committee. The relations between the two societies in trade were next discussed, and it was resolved that the branch committee be instructed to draw up a scheme by which amalgamation may be effected.



IMPORTANT

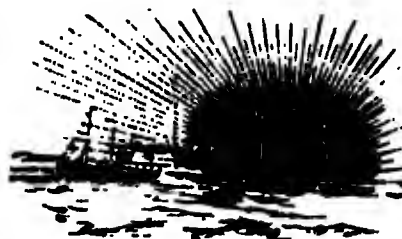
TO

Newspaper, Periodical and Magazine Proprietors,
Printers, Publishers, and all Users of Paper
throughout the World.

**BEFORE PLACING YOUR ORDERS APPLY TO US
FOR SAMPLES AND QUOTATIONS.**

W. V. Bowater & Sons,
Limited
*are Paper Makers, Agents, and
Wholesale and Export Paper Merchants.*

REGISTERED



TRADE MARK.

We specialise in "News," Glazed and Unglazed Coloured Printings
Machine Finished and Super-Calendered Printings, Coated and
Imitation Arts, Typewriting Papers, Art Covers, Cartridges, Writings,
M.G., Glazed and Unglazed Natures, Tissues, Sulphites, and Browns,
Cover Papers, Badami and Native Account Book Papers, and
Board of all descriptions and grades.

159, Queen Victoria Street, LONDON, E.C.4.

Cables: "SPARTEOLUS," LONDON.
Codes: A S C (5th Edition), Western-Union and Western-Union 5-letter Edition, and Bentley's.

WAREHOUSES AND WHARVES—

BOWATER'S WHARF, Commercial Road,
Lambeth, S.E.; and Worship Street, E.

MORDEN PAPER WORKS—

MORDEN WHARF, Greenwich, LONDON, S.E.;
and at Carrick Street, GLASGOW.



OFFICE: ABROAD—

NEW YORK: Woolworth Buildings.
CAIRO: 10, Chareh Tourguemane.
SHANGHAI: 9, Ningpo Road.
BOMBAY: Telephone Buildings, Heme Street.
MADRAS: Post Box No. 237. And at
HONG KONG, SINGAPORE, PENANG and
Principal Ports throughout the World.

SWEDEN.

[FROM OUR OWN CORRESPONDENT.]

Stockholm, October 23, 1920.

BOTH departments of the pulp market are in a curious position which is difficult to describe. With regard to sulphite, quotations are firm and unchanged, sales continue very quiet, the only buyers being the U.S.A. It is reported by one authority that the coal crisis in England will, to a large extent, paralyse export trade to that country, and altogether conditions afford grounds for some anxiety. The mechanical pulp makers appear to be to a very large extent relying upon the United States, and the possibility of the sale of large quantities to America will probably do much to stiffen the European market.

With reference to the paper trade, there are quite a number of machines idle. One correspondent, however, says that this is probably caused by the present uncertain political state of all leading European nations, with the exception of Sweden and Switzerland.

Another authority states that several mills are sold out for the whole of the year at a higher price than those at present existing, and cannot place what they have unsold at reasonable prices.

There is, no doubt, an increasing depression in the paper trade. Paper mills of Gothenburg and Western Sweden are beginning to close down, and it is probable that great numbers of workmen will be thrown out of work. It is reported that the Swedish mills are waiting for a revival of trade with Great Britain, expecting this will come pretty soon, because it is understood that the British buyers have intentionally been holding back with a view of inducing Scandinavian exporters to accept lower prices.

The Stockholm *Dagblad*, a daily newspaper which has appeared in Stockholm since 1824, intends to close down by the end of the year, owing to the high price of paper and the enormous increase in wages.

SVENSK.

NORWAY.

[FROM OUR OWN CORRESPONDENT.]

Christiania, October 25, 1920.

The mechanical wood pulp market is at present under the dual influence of the coal crisis in England and the fact that there is a strong demand from America. In the first case it has the effect of making the market comparatively quiet, and in the second it has the tendency to make prices firm. The paper market also exhibits a quiet tone, this being attributed to the restricted demand from England.

As a consequence of the coal strike in Great Britain the freight market is reported as being very dull, and one authority states that if the strike continues shippings of pit wood from Norway to England will be temporarily suspended.

It is rumoured that the Horregaard Company have purchased the works of the Puland Paper Company, of Mechanical Falls, Maine, United States, whose annual production of sulphite paper is 13,000 tons.

It may astonish some people to learn that Norway possesses a total forest area of 15,000,000 acres, of which 9,000,000 acres are pine forest. In normal times the value of the Norwegian forests was estimated by experts as between 1,000 to 2,000 million krs., but in these days the value is, of course, very much greater.

VIKING.

FINLAND.

[FROM OUR OWN CORRESPONDENT.]

Helsingfors, October 21, 1920.

It is extremely gratifying to note from the recently published returns that Finnish imports and exports for the month of August indicates a favourable alteration of the trade balance, which shows an excess of exports over imports of 127,000,000 Finnish marks.

It is understood that the Association of Finnish Wood Pulp Manufacturers, through their London agents, have taken a £500,000 loan to be issued in portions, and to be used partly for purchasing raw materials. Owing, however, to the decreasing demand, especially from Great Britain, it is stated a number of paper mills have restricted operations and dismissed part of their staffs or closed down entirely.

FINNE.

RUSSIA.

[FROM OUR OWN CORRESPONDENT.]

Petrograd October 16, 1920.

Under the existing circumstances there is very little news which I can send you as representing the situation in this part of Russia. Pending the commercial agreement between England and this country there can be no revival of activity, and conditions show little or no improvement.

It may interest you to know that the Russian Soviet Government are anxious to build a big paper mill, chiefly for the manufacture of bank note paper, the daily requirement of which is said to be 32,000 lbs.

RUSS.

PAPER ENTERPRISE IN SOUTH AFRICA.

CONSIDERABLE interest is being evinced along the East Rand, South Africa, in the announcement that it is contemplated to build a paper mill at Boksburg. It is reported that an option has been secured on a ten-acre site, and the promoters are losing no time in settling the preliminary details. Several hand-made paper samples of white and brown paper prepared from local products are in existence.

It is reported that the demand for paper is creating a great expansion of the Ontario paper pulp industry, and most of the existing mills are enlarging their activities.

THERE will be on show at the forthcoming Brewers' and Launderers' Exhibitions the new Forced-draught furnaces. These furnaces are adapted to any type of boiler, and are already applied to Lancashire, Cornish, Multitubular and the Cochran vertical boiler. According to tests of an exhaustive nature the results obtained on boilers in various parts of the country that are fitted with turbine furnaces are such that the company appears to have actually supplied a long felt want. This type of boiler fitted to Cochran boilers is efficiently raising steam with sawdust, coke breeze, washery pond settlings and all classes of low grade fuel. Arrangements have been made for a fuel expert to be in attendance at the stands at both Exhibitions to advise all those who care to discuss their boiler plant efficiency and their steam problems. The agents are The Turbine Furnace Co., Ltd.; 5, Budge Row, E.C.

WOOD PULP PAPER AND BOARDS TIMBER

of every description
exported c.i.f. all principal
ports of the world.

KJELLBERG & HEDBERG

STOCKHOLM.

Cables: "Swedemill."

GREEN'S ECONOMISER

Used in conjunction with Steam Boilers



**SAVES
15-20 %
OF COAL**

Is used at Factories in all parts
of the World.
Ensures a ready supply of water
at a high Temperature.
Increases the steaming capacity
of Boilers, and lessens contrac-
tion and expansion strains.
Write for descriptive Catalogue W.E.

E. GREEN & SON, Ltd.
WAKEFIELD.

ELECTRO BLEACH AND BY-PRODUCTS LTD.



Manufacturers of
Bleaching Powder,
35/37%.

Soda Crystals,
PURE CRUSHED.

Caustic Soda,
SOLID AND LIQUID.

"Vacuum" Salt,
DRIED AND UNDRIED.

Works and Office:-
MIDDLEWICH, CHESHIRE.

New Process of Silicate Cotton (Slagwool Covering)

Write for Estimates.

(Patent No. 13693).

LONSDALE BROS. LTD.,

Pump St. Works, Bank Top, BLACKBURN.

Boiler Covering Manufacturers and Contractors.

Specialities:

Solidified Slagwool Insulations. Engine Lubrication & Cylinder Castings.
Asbestos Coverings in all grades. Patent Removable Economiser Covers.
Magnesia, Sectional & Plastic Coverings. Flange & Valve Covers.
Telegrams: "PLASTIC, BLACKBURN." Telephone No. 625.

LEWIS CLEGG & SON,

Examiner Buildings, Strutt Street, MANCHESTER.

Telegraphic Address: "Conifer." Telephone No.: City 6585
Works: Stalybridge.

GLUES AND GELATINES

CANADIAN NEWS.

Paper for Cuba.

CONTRACTS for 2,000 tons of Canadian newsprint have been made by Cuban dealers, out of an estimated total consumption this year of 10,000 tons.

New Pulp Mill.

PLANS for a big pulp mill on the Queen Charlotte Islands are being prepared by the Masset Timber Company, of Masset, B.C. The company's output of logs totals 10,000,000 ft. per month.

New Mill.

GOOD progress is being made with the Fort William (Ontario) Paper Company's new mill, the ground-wood unit of which will have a capacity of 120 tons per day. Later the company will build paper mills, installing at first two machines with 100 tons a day capacity.

British Interests Bought.

LOCAL capitalists have purchased the plant and interests of the Dryden Ontario Pulp and Paper Company from British interests, a new company having been formed for this purpose. The Dryden company holds 1,157 square miles of timber limits adjacent to Lake Wabigoon and Eagle Lake in the Kenora, Ontario, district.

Fire Season Over.

THE forest fire season is over. A total of 179 fires occurred during the past year, according to figures made public on Sept. 17 by the Forest Service. These fires covered 2,700 acres. Compared with the preceding year, when 111 fires were begun, and which covered 208,000 acres, approximately, a surprising situation is shown. Although the fires during the past season were greater in number than the year before the area covered is much less.

Paper from Wheat Straw.

SOUTHERN Saskatchewan is being surveyed with a view to securing the most suitable site for a million-dollar paper mill. Wheat straw is the material proposed to be utilised in the manufacture of paper. Experiments have shown that two tons of straw can be made into a ton of paper, while two tons of coal is necessary for the power, making, it is stated, the manufactured product much cheaper than the price now charged for the wood-pulp product.

Paper Clothes.

ARTICLES of paper textile made in Austria and received as samples by the Bureau of Foreign and Domestic Commerce, Washington, have begun their tour of inspection throughout the United States, going first to Baltimore. The itinerary includes Pittsburg, Philadelphia, New York, Boston, Rochester, Chicago, Cleveland, Cincinnati, Western Coast cities, and any other points where interested parties request exhibits. The samples include men and women's coats, dresses, suits, tablecloths, etc.

Paper Trade Returns.

ACCORDING to the Canadian trade returns for August, imports from the United Kingdom amounted to \$21,471,000 as compared with exports. Exports of newsprint during the month amounted to \$7,200,000, wood pulp shipments during the same time being worth \$9,511,000. Newsprint paper exports to the United Kingdom amounted to \$1,150,000; to Australia \$585,000; and to South Africa \$108,000. The total value of the imports into the United Kingdom during the eight

months ended August 31 was \$168,000,000, and exports were worth \$224,358,000.

Encouraging Enterprise.

"ANY companies, whether British, Canadian, or American which have propositions to develop pulp and paper enterprises in New Brunswick will receive every encouragement from the provincial government," says Premier Foster, of New Brunswick, in an interview. "Our general policy toward pulp and paper enterprises is embodied in the statutes of the province and provides for the granting of licenses to cut on the Crown lands for the purpose of manufacturing pulp and paper under what are very reasonable terms. These licences extend for a period of thirty years, and may be renewed for another twenty."

AMERICAN NEWS.

Price of Newsprint Up Again.

THE International Paper Co. announce that the price of newsprint for the last three months of 1920 will be increased to \$15 a ton.

Activity in Norway.

REPORTS from Norway indicate increased activity on the part of American purchasers of Norwegian wood pulp, cellulose, and paper. American buyers who depend almost entirely upon Canadian supplies found themselves rather late in the Norwegian markets when American stocks began to ebb, but nevertheless many contracts have been made in the last few months. The exchange rate, of course, has been exceedingly favourable to American importers.

Lucky German Publishers!

ACCORDING to a despatch from the Berlin correspondent of a New York daily, newspaper and periodical publishers in Germany are now able to buy print paper at three cents a pound and the supply is said to be exceeding the demand, and as a result German manufacturers are hoping to sell to America if they can get the Government to grant the necessary export permits. One large sale contract for 300 car loads, says the report, has just been placed in the United States.

Unsatisfactory German Paper.

THE bid which was submitted to the Government Printing Office some weeks ago by the Mathers-Lamm Paper Company of Washington, D.C., for German-made paper has been rejected. Officials at the printing office state that the paper was rejected because it was found to contain all ground wood, and this would not have been suitable for the purposes for which the paper was required. The officials admit, however, that the paper could have been used for many purposes. It is understood that a quantity of this class of paper is now being sold in this country.

Investigation into the Newsprint Situation.

ANOTHER investigation is to take place shortly into the newsprint situation. It is believed that this investigation by the Department of Justice has been instigated partly by the report which was made some months ago by the Federal Trade Commission and partly by the report of the Senate Committee on Manufacturers, which was made public at the adjournment of the last session of Congress. No doubt officials of the Department of Justice feel that at the forthcoming session of Congress considerable attention will be given to the newsprint industry and they wish to forestall any criticism which may be made of the department for inactivity on their part.

FUTURE OF THE PAPER INDUSTRY.

DEMAND LIKELY TO INCREASE.

INTERVIEWED as to the future of the Paper Industry Mr. Wessel, managing director of Borregaard, Norway, said that the market for the paper industry was somewhat obscure. The demand during the last month had been small, but would probably increase later on. The Norwegian position was at present very favourable, owing to the rate of exchange. There had been a considerable demand for Norwegian paper and cellulose from the United States, South America and the Far East. The paper prices had been continually rising since 1915, except for some small relapses in 1918-19, but the great rise in prices of 500 per cent. up until now, and from now with 2-300 per cent. additional, was a direct consequence of the increased cost of production. Thus kr. 55-57 per cubic metre had to be paid for timber delivered at main rivers, and kr. 65-70 for timber delivered at the factory.

The high prices caused more timber to be felled, but not so very much, because the mills could take only a limited quantity. As far as he knew there were few new mills in Canada and the United States, and none in Norway and Sweden. The great expenses were prohibitive for new building and enterprise.

BAMBOO.

NEW WEST INDIAN ENTERPRISE.

INQUIRIES have been made in several of the West Indian colonies by British paper makers regarding the possibilities of the bamboo industry in the Caribbean, says a correspondent in the *Times Trade Supplement*.

Two representatives of an English publishing house were recently in Trinidad and Grenada for the purpose. The proprietors of this house started to plant bamboos on an extensive scale in Trinidad in 1913. They have established a plantation of 1,000 acres in one district, and it is stated that very shortly a plant for the production of paper will be established there. In every West Indian colony the bamboo plant is to be found, and the people of Grenada hope that British capitalists will be induced to develop the industry in that island. One West Indian journal says:—

If paper manufacture can be brought to the West Indies we are sure that a profitable industry will spring up. . . . Bamboo may soon claim its own as a plant of value, and those who cultivate it should keep a watchful eye on every tree they now possess.

In connection with the Imperial War Museum, which has been attracting so much attention at the Crystal Palace, I may mention that the London correspondent of the *Glasgow Herald* had a passing paragraph regarding the new exhibits of paper clothing which had just been added as specimens of a German wartime production. "These paper clothes," remarks this correspondent, "recalled to my memory experiences during the Armistice advance in Belgium—for the last time I saw the product was with the soldiers during that period. In some of the villages which the Germans had evacuated after a prolonged occupation, they left elaborately equipped billets, and in nearly all the beds there were strong and clean paper pallets filled with wood shavings. Quantities of rope (also made of paper) were discovered in different places, and the finds at the time were of the greatest interest to the Scottish troops, who had not previously known of their existence. The Crystal Palace exhibit are of higher quality, and include such articles of clothing as men's striped trousers and ladies' blouses and night-dresses. In appearance many of them are almost identical with creations of more lasting material—coloured insertions helping considerably to add to the deception."

TUB SIZING ENGINE SIZING PAPER COATING

FECULOSE

- (1) Allows **Tub Sizing** to be done on the paper-making machine. It gives results superior to glue-sized loft-dried papers.
- (2) In **Engine Sizing**, a new development, halves the amount of rosin used in the beater, reduces the quantity of alum necessary and gives equal results in paper sized with from 1% rosin upwards.
- (3) For **Paper Coating**, is frothless, can be dried at high temperatures, and gives a rattle and ink-resistance to paper unequalled by any other size. It is made more easily than glue or casein.

Samples and full particulars from
THE FECULOSE COY., PAISLEY.

FINSK PAPPERS och TRÄVARUTIDSKRIFT

:: (FINNISH PAPER AND WOOD JOURNAL) ::

PUBLISHED by the Central Union of Finnish Wood-working Industries. Organ of the Association of Finnish Paper Engineers. Issued both in Swedish and in Finnish, 24 times a year.

An Excellent Advertising Medium.

Subscription rate for foreign countries :
40 Finnish marks per year. Address :
V. HENRIKSGATAN,
16, HELSINGFORS.



Special Prepaid Advertisements.

SITUATIONS VACANT, BUSINESSES WANTED or FOR DISPOSAL, MILLS WANTED or TO LET, MACHINERY, and MISCELLANEOUS are inserted at Six Shillings for twenty-four words or under; Two Shillings extra for every subsequent line or portion of a line.

LEGAL AND PARLIAMENTARY NOTICES, FINANCIAL ANNOUNCEMENTS, TENDERS, SALES BY AUCTION, &c.—2/6 per line.

CHEQUES and Post Office Orders to be crossed and made payable to S. C. PHILLIPS & Co.

Offices: 47, Cannon Street, London, E.C.
448 & 450, Produce Exchange, Manchester.

FOR SALE.—25 tons Ground White Barytes, £9 15s. per ton, f.o.r. Bags free.—Box No. 730, THE PAPER-MAKER OFFICES, 47, Cannon Street, E.C.4. Nov.—730.

RECOVERY AND REMANUFACTURE OF WASTE PAPER BY JAMES STRACHAN, 12s. 6d. Copies can be had from THE PAPER MAKER Office, 47, Cannon Street, London, E.C.4.

DE Forenede Jydske Produktforretninger, Hovedkontor Aarhus, Denmark. Telegraphic address: "Jydskprodukt," are sellers of Paper and Pasteboard, manufactured from new and old white and coloured Cotton and Linen Rags, old Moleskin, old dark Cotton, Cotton and half Wool-bedsacking, Cloth Seams, new and old Waste Paper, Manila and Hemp Rope, etc. Oct.-Mar.—729.

WANTED.—CONFECTIONERY, ETC., BAGS.—Quote 100,000 lots and over, to W.G., 6, Battersea Rise London, S.W. Nov.—731.

FANCY POSTER BLANKS from Crown upwards, including Double Crown Long Folio Cinema Slips. Samples 3d. stamps.—CHEVERTON & LAIDLER, Printers, Dunstable. Nov.—JAN.—731.

MILD STEEL WIRE.—About 100 Tons 14 Gauge Annealed Wire, in Coils, to be cleared quickly. It has never been used, but owing to being stored in open is now rusty, in some cases rather badly. Will serve excellently for bundling or other purposes. For immediate orders, in ton lots or more, low price of 20/- per cwt., F.O.R., London. Mention Reference KW/9. —THOS. W. WARD, LIMITED, Silvertown, London, E. Nov.—732.

REX, WEDDALL & CO.

WOODPULP and PAPER a Speciality

FORWARDING AGENTS

42, Deansgate, MANCHESTER
Tel.: "Release." Phone: 7530 Central.

Cameron & Co. CHEMICAL AGENTS AND IMPORTERS.

FARINAS, GUMS, ROSIN, DEXTRINES, AND STARCHES, AND ALL PAPER-MAKERS CHEMICALS.

61, Faulkner Street, MANCHESTER.

Works—
Grove Works, Taylor Street
Bury New Rd., Manchester.

Edward Rushton, Son & Kenyon,

Auctioneers, Valuers and Fire Loss Assessors,

13, NORFOLK STREET, MANCHESTER. (Established 1835.)

Telephone Nos.: 775 City and 5632 City

Telegrams: "Rushtons, Auctioneers, Manchester."

Undertake VALUATIONS FOR INSURANCE, and other purposes.

FIRE LOSS SETTLEMENTS

(On behalf of Assured only).

SALES BY AUCTION

of Mills, Works, Plant and Machinery and all work in connection therewith.

Average Yearly Valuations exceed £10,000,000.

Full Staff of Trained Expert Assistants employed.

R. R. WHITEHEAD & BROS., LTD.

Established 100 Years.

Manufacturers of every description of

FELTS

for Paper Makers.

Telephone:
No. 63, Mossley.
Telegraphic Address:
"Whiteheads,
Greenfield, Oldham."

Royal George Mills, GREENFIELD, near OLDHAM.

THE CHOICE

Rail, Petrol, Steam or Horse ?

Wise selection of your mode of transport means lowest costs and greatest efficiency.

Under certain conditions the horse is best. :: :: ::

Petrol or Steam-----? Road or Rail-----?

Decision should mean definite gain. :: ::

TILLING'S
TRANSPORT SERVICE
PETROL STEAM OR HORSE

brings 75 years' road transport experience to your councils. :: :: :: ::

"You do not only hire a vehicle, you acquire a complete service." :: :: :: ::

Whether you need a single small haulage or a yearly contract we suggest the best method.

We quote by the ton, by time, or for complete service.

Tell us what you need and see what we do.

THOMAS TILLING, LIMITED
LONDON :: :: S.E.15.

TILLING'S TRANSPORT SERVICE
FOR EVERY HAULAGE PURPOSE.



KEEP RUNNING!**The Turbine (Patent) Furnace**

renders Boiler Houses independent of Coal Strikes. It will keep a full head of steam with any old rubbish. Waste from the colliery dumps; coke breeze; coke dust; sawdust; washery pond settlings; common slack and low grade and unusual fuels.

During the last Coal Strike hundreds of Works were running on Turbine Furnaces, and running successfully, keeping full steam.



THE TURBINE FURNACE can be fitted to any type of Boiler in a few hours without drilling, using existing ironwork.

THE FURNACE MAY BE SEEN AT THE FORTHCOMING EXHIBITIONS—THE BREWERS' AND THE LAUNDERERS'. CALL AND SEE IT.

A Technical Expert will be present at each Exhibition to discuss and advise on Boiler House Problems, and the production and maintenance of CHEAP STEAM. Engineers and others are specially invited to inspect the Furnace for themselves.

WRITE FOR ACTUAL TESTS' RECORDS TO
The TURBINE FURNACE Co., Ltd.
5 BUDGE ROW, LONDON, E.C.4
Phone: CITY 7467. Telegrams: "Asunder, Cannon, London."

Buy PAPERS of Continental origin

from

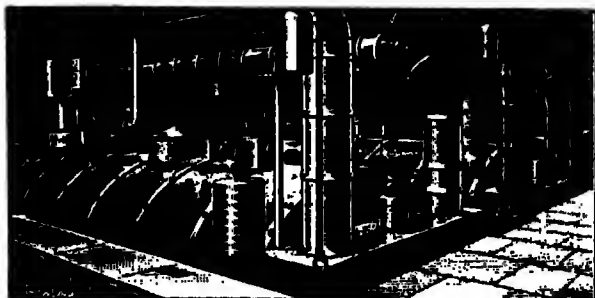
J. BACHTOLD & Co.

PAPER EXPORTERS

ZURICH

(Switzerland)

BOILER AND PIPE COVERINGS



**Crown Slag
Wool & Steel
Sheeting.**

The most efficient
covering ever tested.

96% SAVING

CROWN ASBESTOS. 85% MAGNESIA.

SUTCLIFFE BROS.

Telephone—**SEAL WORKS, HYDE, Nr. MANCHESTER.**
Hyde 70.
London Works—Seal Wharf, High Street, Stratford, E.15. Established 1869.

**Telluric
Cement.**

The most durable
plastic covering
in use.

A. W. K. TRUEMAN & SON,

LONDON. LEICESTER. BIRMINGHAM

**Paper and Board Merchants,
Imports and Exports.**

**NEWS on REELS and in SHEETS
PRINTINGS.
KRAFTS.
VEGETABLE PARCHMENT.
GREASEPROOF.
TISSUES.
SULPHITES.
BOARDS.**

STOCK LIST ON APPLICATION.

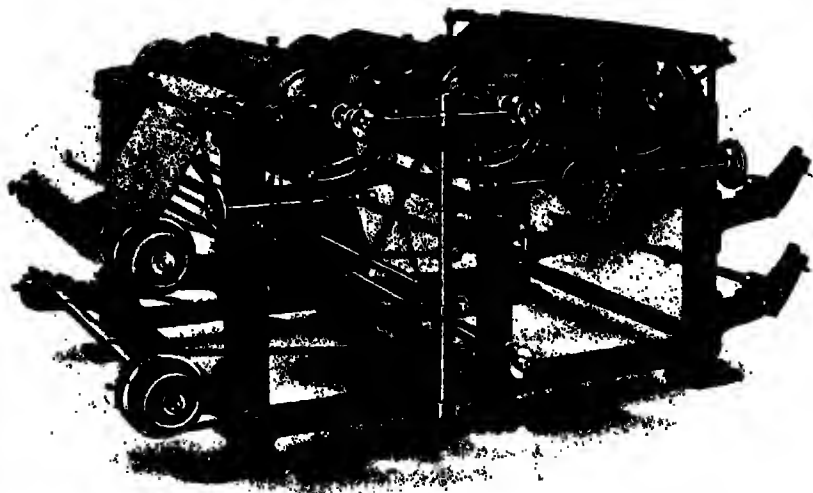
47, FLEET STREET, LONDON, E.C.4.

Telephone :
CITY 4713,

Telegrams :
"AWKTETFILS, FLEET, LONDON."

Lang Bridge Ltd.

Makers of Machinery for Paper Mills



PAPER BRUSHING MACHINE.

Paper Coating Machines with Festooning Arrangement (with or without Turntable), Hot Air Drying Apparatus, Self-acting Rod Box, and Reeling Apparatus.

Calenders.

Paper Brushing Machines with three Large Circular Brushes.

Re-reeling Machines.

Slitting and Cutting Machines.

Pasting Machines for three Webs of Paper.

Paradise Works, Accrington, Lancs.

J. E. SALVESEN & Co., Ltd.

AND

GORDON WATTS & Co.

Timber and Wood Pulp Agents

LONDON -

158, Fenchurch Street, E.C.3.

MANCHESTER -

448/450, Produce Exchange Buildings.

EDINBURGH -

9, Greenhill Park.

Telegrams { Salvesen
Cornod } LONDON.

Salvesen
Cornod } MANCHESTER

Johanni EDINBURGH

PAPER MAKING MACHINERY

Only Canadian builders of paper machines.

HYDRAULIC TURBINES

Canadian manufacturers of I.P. Morris Hydraulic Machinery.

DOMINION ENGINEERING WORKS, LIMITED. MONTREAL, CANADA.

Cable Address : - - - "DOMWORKS, MONTREAL."

Wardill & Gilbert

formerly trading as

H. HUBER & CO.

12 & 13, Upper Thames Street
LONDON, E.C.4.

Telegrams :
"ASPERO, GENT, LONDON."

Telephone :
CENTRAL 2386.

Specialists in
PAPER AND PULP.

Direct Correspondence Solicited
with Pulp and Paper Mills.

**Sole Agencies of British and
Foreign Mills undertaken.**

JOHN M. WATSON & CO.

—CROWNPOINT WORKS—
37-59, DAVID ST, GLASGOW

SUPPLIERS OF

Paper-Making Materials

HOME AND EXPORT.

WASTE PAPERS—RAGS—NEW CUTTINGS
ROPES—JUTE—CANVAS—BAGGING.

*All our stocks graded to suit
Paper-makers' requirements.*

ENQUIRIES SOLICITED.

Telegrams & Cables : "Cellulose, Glasgow." Telephones : 66 & 3027 Brighton.
Codes : A B C (5th Edition), "Waste Merchants," "Western Union."

Telephones :
AVENUE 6888
(2 lines.)

AVENUE 1729
(3 lines.)

Chas. Page & Co., Ltd.

(ESTABLISHED 1880)

Telegrams :
"PAGANINI,"
LONDON.

"PAGANINI,"
MANCHESTER.

47/51, King William Street, London, E.C.4.

MANCHESTER : 26 Brown Street.



PRUSSIAN BLUE
PAPER MAKERS' COLOURS
CASEIN
ANTICHLOR
PIGMENTS

PRUSSIATES OF SODA
AND POTASH
HYPOSULPHITE OF SODA
SKIN GLUES SOLUBLE BROWN
CRYSTALS
GELATINES.



ALL PAPER MAKERS' CHEMICALS, COLOURS AND SUNDRIES.
TEST OUR SERVICE AND QUOTATIONS.

Soluble Brown Crystals

Soluble Brown Paste

Carbon Black

Mineral Black

English Umber
(Lump & Powder)

Pulp Colours

Bronze Paste Blue

Powdered Soluble Blue

Paper-makers' Ochre

Red Oxide

Ultramarine Blue
(Alum Proof)

Aniline Dyes of every description

J. L. CARDWELL & CO., Ltd.,

Managing Director - - A. R. LUCAS.

11, Blackfriars Street, MANCHESTER.

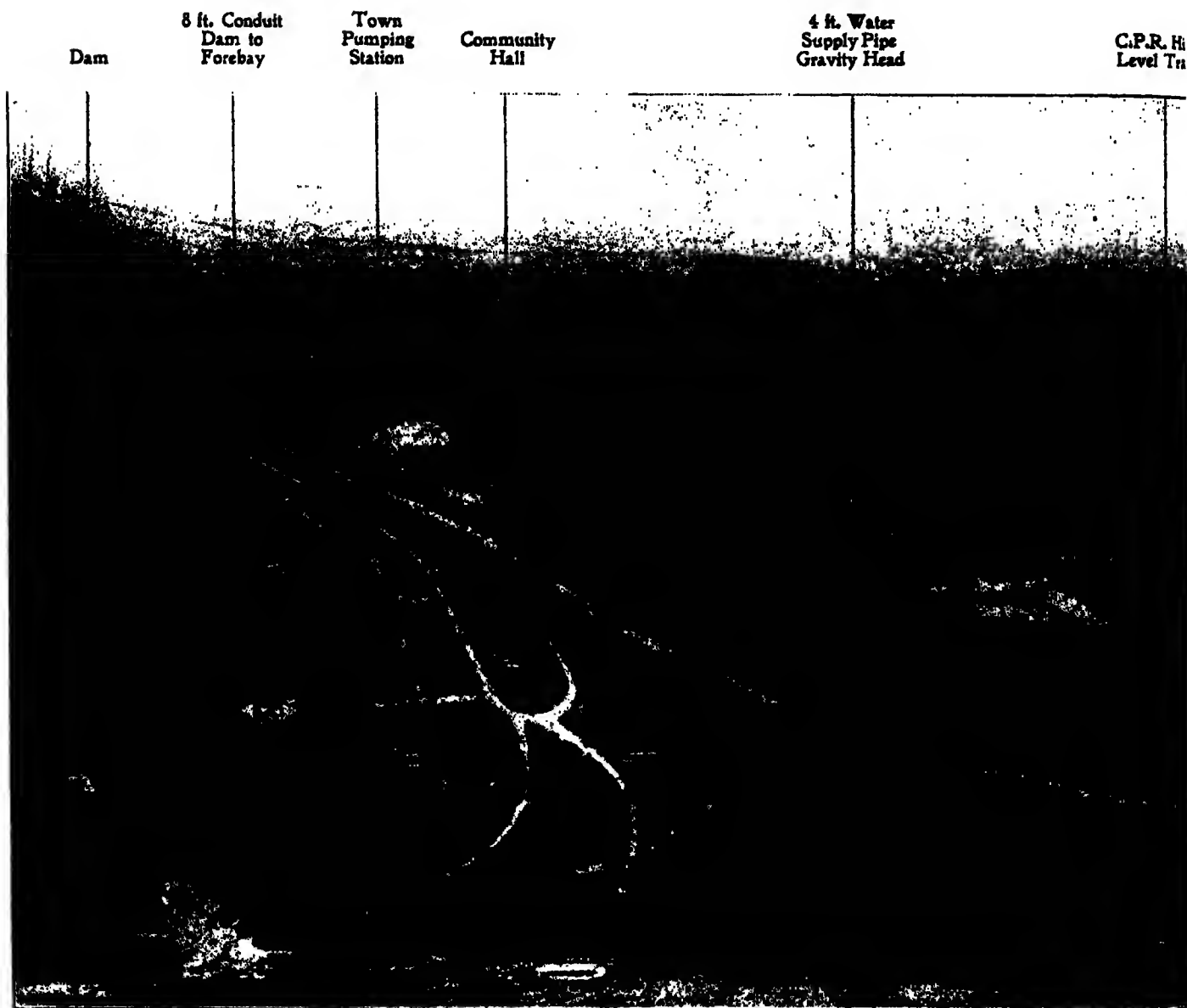
Tel. No. 2838 City.

Tel. Address : "Oxidation."

THE RIORDON PULP &

The Highest Quality

PRESENT CAPACITY :



Forebay Power
House

Kipawa Inn

C.P.R.
Station

Cafeteria

THE NEW K

We can now accept orders for shipment, commencing with October, in

APER CO. Ltd., MONTREAL

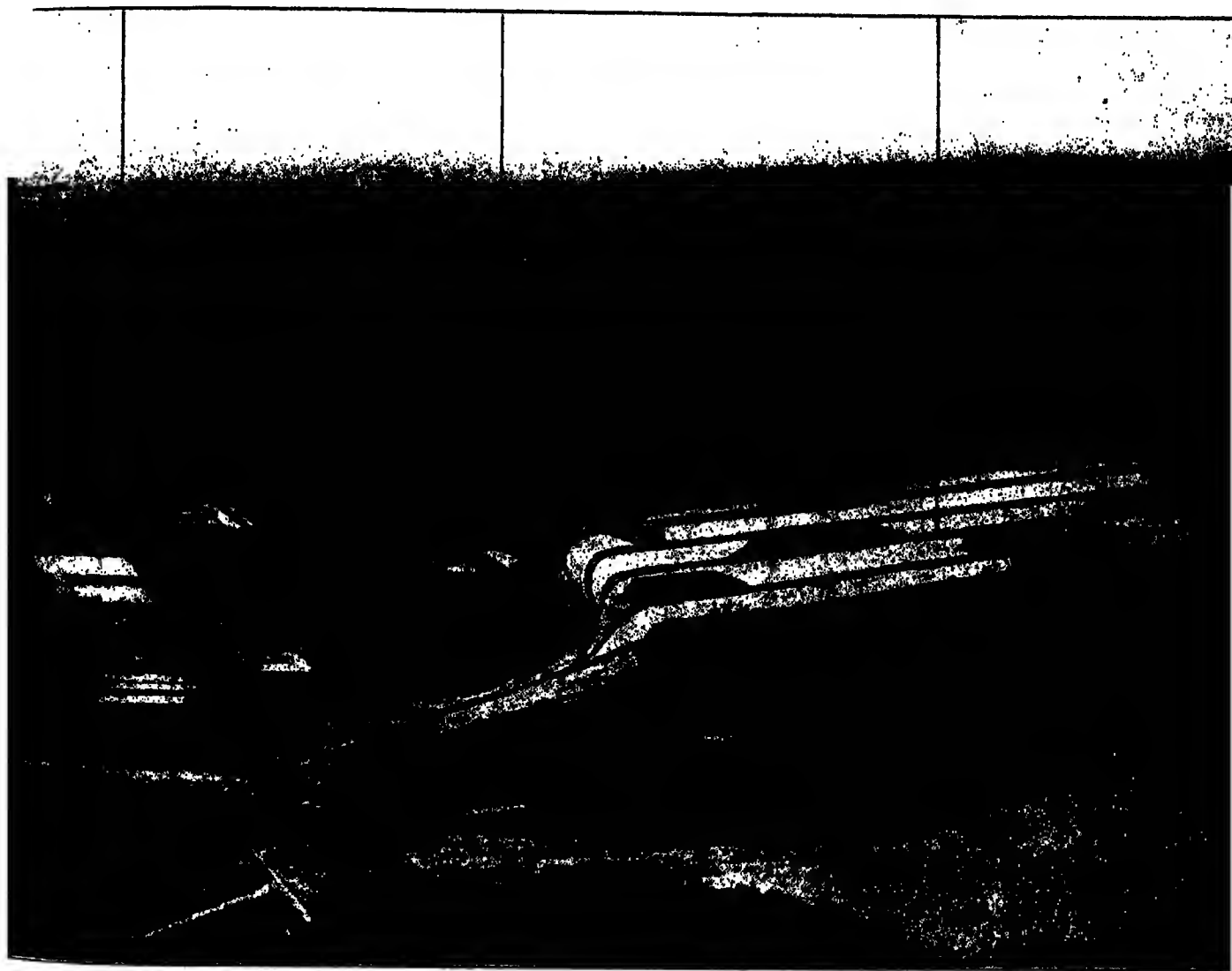
ached Sulphite Fibre.

10 TONS ANNUALLY.

Sulphite Mill

Wood Room

Log Piling
Ground



Gov. Dam

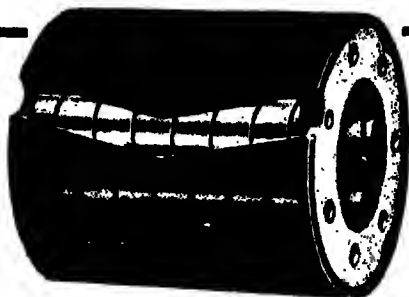
Gov. Dam

SULPHITE MILL.

ELECTROLYTIC BLEACHED SULPHITE, manufactured in the above Mill.

HYATT

—the reliable bearing with the resilient roller



HYATT LTD.,
4, Thurloe Place,
South Kensington,
LONDON, S.W.7.

Q. The HYATT ROLLER BEARING is as great an advance in bearing construction as the pneumatic tyre was an advance on preceding types.

Q. It fulfils all the conditions required of the theoretically perfect bearing in a practical manner.

The type illustrated is applicable to all classes of machinery. Our engineers will assist you in its application to your machines. Specify Hyatt Bearings when ordering new machines.

Our new descriptive catalogue of the Hyatt Line Shaft Bearing is now ready. We shall be pleased to send you a copy.



PAPER

WE SPECIALISE IN NEWS, PRINTINGS, BROWNS, CAPS, SKIPS, TISSUE PAPER (WHITE & COLOURED), MACHINE GLAZED CAPS, KRAFTS AND NATURE BROWNS, WRAPPING PAPER, TELEGRAPH PAPER, COUNTER AND TOILET ROLLS, SMALL REELS AND ALL KINDS OF CREPE; BAGS FOR ALL TRADES.

STRAYBOARDS, ALL SIZES AND SUBSTANCES; LARGE STOCKS IN BERMONDSEY AND ELSEWHERE.

We shall have pleasure in sending you our stock lists on receipt of your request.

"BRECHTCK" BOND.

A super-bond letter paper, linen faced or plain. Full range, white and coloured. Supplied at distinctly reasonable prices. Immediate delivery.

THE FRENCH PAPERSTOCK COMPANY, Ltd.

PENRHYN WHARF.—TYSONS WHARF.—HALCOMBE WHARF.—COOKSONS WHARF.

All Correspondence to 24-30, BERMONDSEY WALL, LONDON, S.E.16.

Phone: Hep 3837 3 lines.

Telegraphic address: "Brechtock Rothun, London."

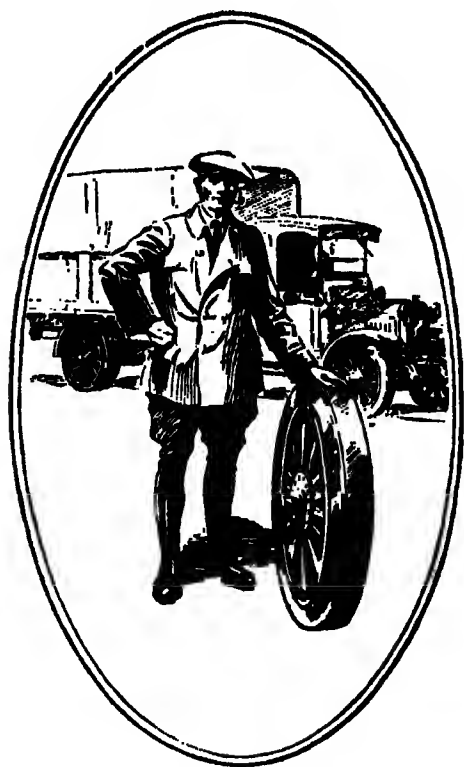
Local Branches at
WEST KENSINGTON,
CALEDONIAN ROAD,
LEWISHAM, Brixton,
CHILMSFORD,
SOUTHEND-ON-SEA,
SURREY AND
BRENTFORD.

**SPECIAL
OFFERS**

**PURE M.G.
SULPHITE,
Pink, Green & Blue.**

8½d. per lb.

20" x 30". 15 lbs.



The wider the tread
the better the grip on the road.

The better the grip on the road
the less likelihood of lateral movement.

A narrow tyre wobbles and pulls
sideways — tearing tread from base.

The Palatine Tyre with its wide
weight-bearing tread-surface, holds the
road like the foundations of a house.

It resists lateral movement, so
combating tread separation.

The wider tread presents a greater wear-
ing surface—it lasts long and gives big mileage.

Load and lorry ride on a solid base of
rubber which gives greater resiliency, saving
wear and tear by vibration, bumps and jolts.

Add reinforced edges to prevent chip-
ping or shredding and you have the

PALATINE
SOLID-TYRE

The LEYLAND & BIRMINGHAM RUBBER Co. Ltd
LEYLAND ————— LANCs

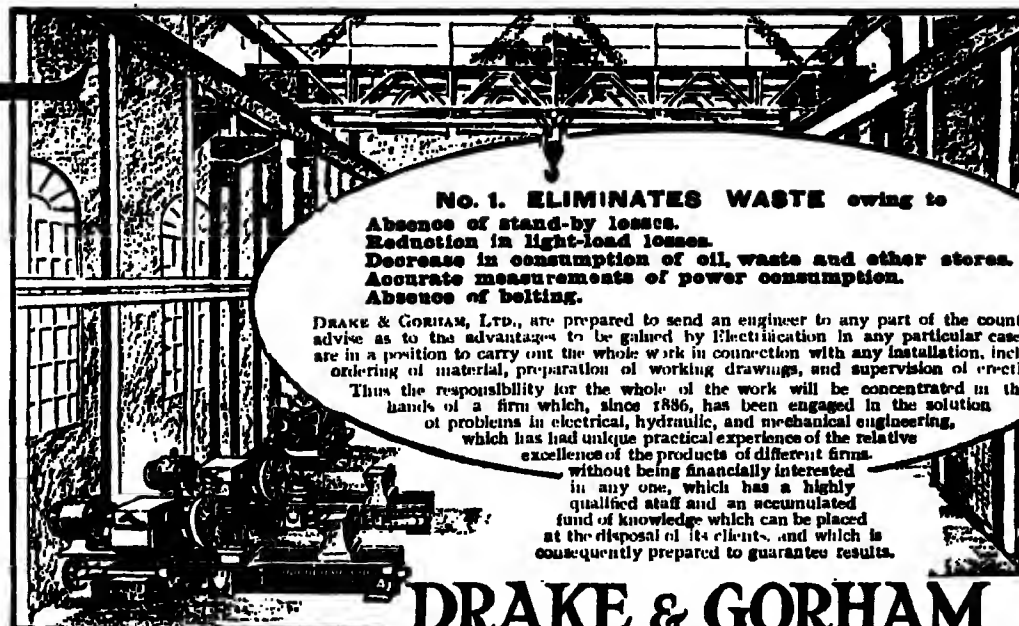
London Offices: 24-30, Duke St., Aldgate, London, E.C.3
BIRMINGHAM -124, New Street. MANCHESTER -Tower Chambers, 20, Brown St.
CARDIFF -110, Butte Street, Dock. GLASGOW -40, Queen Street, and Kent Works
Maryhill. EDINBURGH -25, North Street. CALCUTTA -Hastings Street
JOHANNESBURG -Barndorf Buildings, Marshall Square. BUENOS AYRES -
Rivadavia, 1430.

RAPID FITTINGS

We are able to fit Tyres within 24 hours at our
Stock and Fitting Depot, 28, 29 and 30, Sidney
Grove, Sidney Street, City Road, London, E.C.1

1. Eliminates Waste. 2. Saves Labour. 3. Increases Production.

ELECTRIFICATION



No. 1. ELIMINATES WASTE owing to
Absence of stand-by losses.
Reduction in light-load losses.
Decrease in consumption of oil, waste and other stores.
Accurate measurements of power consumption.
Absence of belting.

Drake & Gorham, Ltd., are prepared to send an engineer to any part of the country to advise as to the advantages to be gained by Electrification in any particular case, and are in a position to carry out the whole work in connection with any installation, including ordering of material, preparation of working drawings, and supervision of erection.

Thus the responsibility for the whole of the work will be concentrated in the hands of a firm which, since 1886, has been engaged in the solution of problems in electrical, hydraulic, and mechanical engineering, which has had unique practical experience of the relative excellence of the products of different firms.

without being financially interested in any one, which has a highly qualified staff and an accumulated fund of knowledge which can be placed at the disposal of its clients, and which is consequently prepared to guarantee results.

DRAKE & GORHAM LTD

36, GROSVENOR GARDENS, S.W.1.

29, PICCADILLY, MANCHESTER.

50, WELLINGTON STREET, GLASGOW.



ECONOMY IN PRODUCTION

For the use of Paper Mills, Fraser and Chalmers BACK PRESSURE and PASS-OUT IMPULSE TYPE STEAM TURBINES provide
Combined Power Generating & Steam Heating

thus effecting considerable economies in the cost of power production.

Complete Installations supplied with A.C. and D.C. Generators.

Enquiries Invited.



FRASER & CHALMERS ENGINEERING WORKS

ERITH, KENT



THE GENERAL ELECTRIC CO. LTD.

LONDON OFFICE
87 QUEEN VICTORIA ST E C 4



HULL

NEW WAREHOUSE

"ATLANTIC"

Capacity **15,000** Tons

FOR RATES APPLY

JOHN GOOD & SONS, LTD.

(ESTABLISHED 1833)

**Warehousekeepers, Wharfingers
Lighter Owners & Forwarding Agents**

Telegrams :
GOODSONS, HULL.

Telephones :
CENTRAL 5080
(4 Lines) ;

SITES for ... WORKS, FACTORIES WAREHOUSES, etc. ADJOINING THE G.W.R.

Numerous areas of land, admirably situated.

Good Water Supplies. Proximity to Good Markets.

This Railway is connected with some of the largest Steam, Anthracite, and House Coal Fields, many of the Principal Ports, and important and extensive Iron and Steel Producing Centres.

Information as to suitable sites, siding facilities, conveyance rates, etc., will be readily afforded on application to Mr. C. A. ROBERTS, Chief Goods Manager, Paddington Station, London, W.2, to whom Owners and Agents of Land and Premises for Sale or to be Let are invited to send particulars for insertion in the Register which is kept to enable information to be furnished to parties requiring sites, etc.

G.W.R. Paddington Station, W.2.
November, 1916.

CHAS ALDINGTON, General Manager.

COCK O' THE WALK.

COCKSBARROW CHINA CLAY WORKS

The Highest in Cornwall.

**Parkyn &
Peters,**

GLENVIEW, ST. AUSTELL

LONDON:

32, Queen Victoria Street, E.C.

Telegrams—Parkyn, London; Peters, St. Austell.

6 MINES :: 12 KILNS

N.B. For despatch in shipping and cleanliness, our Clay is gravitated by means of a pipe line to Drying Kilns erected alongside the main line, Great Western Railway where we have 3,000 ft. of private sidings and our own Railway Wagons.

NOTE.—The same old London address for 40 years.



"SEE! from the brake the
whirring pheasant springs; and
MOUNTS EXULTING ON
TRIUMPHANT WINGS."



**Motor
Exhibition
White City**

NOVEMBER 4th to
NOVEMBER 13th.
STAND 281

Big Gun Tyres

*Immediate Delivery •
from Stock of All
Types of Tyres.*

Under a guarantee to support a weight of 40 tons, B.G. Tyres were the tyres selected by our Allies during the war to carry the Big Guns over every kind of road in France.

B.G.

**BERGOUGNAN
TYRES**

For all Types of Vehicles

This is the final proof that B.G. Tyres will give mileage and wear in excess of any ordinary tyre when fitted to your lorries.

BERGOUGNAN TYRE Co.,

14 & 15 Warwick St., Regent St., W.1

Telephone Regent 2036 and 4844.
Telegraphic Address "Bergolons" Reg., London."

MAKERS OF THE GIANT PNEUMATIC CORD TYRES.

AXEL H. ÅGREN, GOTHENBURG, SWEDEN, General Merchant and Forwarding Agent.

IMPORT OF IRON, STEEL AND METALS, CHEMICALS, COAL AND COKE.

Telegrams: "AGREN, GOTHENBURG."

ESTABLISHED 1887.

BLANC FIXE

Pulp and Powder

**THE STOCKTON-ON-TEES CHEMICAL
WORKS LTD. STOCKTON-ON-TEES.**

Telephone—432 Stockton.

Telegrams—"Chemicals, Stockton."

L. S. DIXON & Co. Ltd.

The safest thing in the world
to buy is — **REPUTATION**

Superior

Papers

BANKS AND BONDS.

Caxton Ex. Strong.	Imperial Bond.
Caxton Fine Linen.	Multipar.
Charta Dixonica.	Old Hampshire Bond.
Dirico Bond.	Royal Mail Bond.
Em ire Bond.	Silver Cable.

TUB SIZED WRITINGS.

Blackstone	Dirico Superfine.
Centaur Superfine.	Old Kent Linen.

ENGINE SIZED WRITINGS.

Atlantic Ledger.	Grandholm.
Caxton Mercantile.	Glenburnie.
Prince of Wales.	Woodville.

COVER PAPERS.

Advertiser.	Homespun.
Caxton.	Futurist.
Chippendale.	Sheraton.
David Cox.	Studio.

BLOTTINGS.

Corporation.	Enamelled Process.
Electric.	Fotonic.

L. S. DIXON & CO., LTD.,

Cable Street,
LIVERPOOL

Canter Lane,
LONDON, E.C.3

THOR THORESEN

LINE OF REGULAR STEAMERS
FROM EAST AND WEST NORWEGIAN PORTS TO WEST
COAST U.K. AND TO THE BALTIC AND VICE VERSA.

THOR THORESEN Jr. (U.K.) LD.

SHIPBROKERS, FORWARDING, INSURANCE AND COLLIERY AGENTS,

Telegrams: "Thoreline, Manchester." **7, Brazenose Street, MANCHESTER.** Telephones: 9087 and 9088 City.

And at LONDON, CHRISTIANIA and PARIS

SCANDINAVIAN

**EAST-AFRICA LINE TO RED
SEA, EAST AFRICA, MADAGASCAR
AND VICE VERSA. :: :: ::**

Factory Telephone 1049 CHISWICK.
Office " 6343 CITY.



Telegrams: "PACKERIES, LONDON."

The Forester Paper Co. (1917)

LTD.

**VICTORIA ROAD,
ACTON, W.3.
Manufacturers.**



DIRECTORS :
A. E. MALLANDAIN. S. FARROW.

PACKING PAPER
SPECIALITIES.
—
CORRUGATED
PAPERS & BOXES, Etc.
—
WAXED PAPERS.
—
EMBOSSED PAPERS.
—
PAPER SHAVINGS,
Etc.

FANCY PAPER
SPECIALITIES.
—
CRINKLED & CREPE
PAPERS.
—
SHELF AND LAGE
PAPERS.
—
CONFETTI.
—
CARLANDS, Etc.

Offices : 1, Foresters' Hall Place, Clerkenwell, E.C. 1.



HIGH-CLASS
ECONOMICAL
HORIZONTAL AND
VERTICAL STEAM
ENGINES.
WITH CORLISS
OR PISTON
DROP VALVES.
=====
MILL GEARING.

We have supplied Engines of upwards of 30,000, I.H.P. to British and Foreign PAPER MILLS alone.

Pollit & Wigzell, Ltd.,

Engineers and Millwrights,

SOWERBY BRIDGE, YORKSHIRE.

Telegraphic Address: "Prow, Sowerby Bridge."

National Telephone No. 1563 (2 lines).

Telegrams: "Prosperous, Card. London."

Telephone: Central 15489.

W. D. EDWARDS & SONS, Ltd.,

75, KNIGHTRIDER STREET, E.C.4.

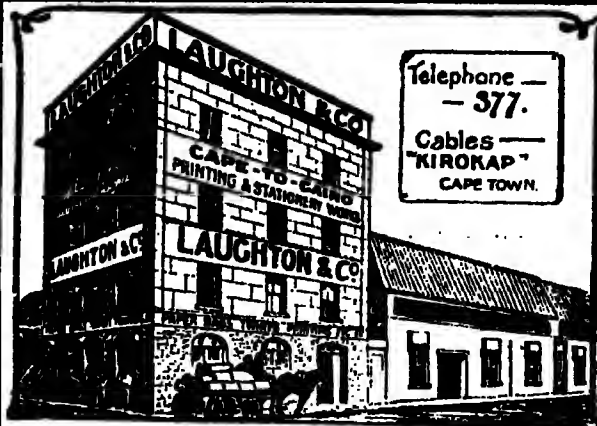
**WHOLESALE PAPER
MERCHANTS & AGENTS****LARGE STOCKS OF WRAPPING AND
BAG PAPERS, GREASEPROOFS, &c.****The Woodlands Colour & Chemical Company.**

FRED TAYLOR, JOHN NOCHER,

**18, BOOTH STREET,
MOSLEY
STR. ET, MANCHESTER**Telegraphic Address:
"BASIC, MANCHESTER."**MANUFACTURERS OF COLOURS FOR
LITH, GRAPHIC, CALICO PRINTERS,
& PAPERMAKERS, PAPER STAINERS,
DISTEMPER AND PAINT TRADES.**

Works: CHEETHAM HILL, MANCHESTER

Telephone: CITY 947.

**WHOLESALE AND EXPORT
Paper Bag Manufacturers and
Paper Merchants.****Manufacturing Stationers and Printers.**

Formerly of London. Established at Cape Town 1896.

Besides being extensive users of various **PAPERS** for Manufacturing Purposes, we also merchant many grades of Papers.

Paper and Pulp Boxboard Mills are invited to send offers of any Clearance Lines of these; also Samples of all their regular makings of various Papers.

We are also open to act as Sole Agents in South Africa for several Continental Mills, and invite Correspondence, either to our London Agents,

**Messrs. COX, MOEVEN & CO., Baltic House, 27, London-
hall St., London, E.C.** Reference, National Bank of S.A.**LAUGHTON & Co., CAPE TOWN.
MECHAU STREET.**

Telegrams: "OTHERWHILE, LONDON."

Telephone No.: BANK 5707.

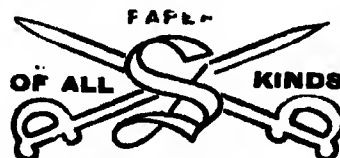
ESTABLISHED 1891.

PAUL SABEL & CO.,

(PERCY F. E. SABEL)

Paper Agents and Merchants

(IMPORT AND EXPORT).



Registered Design.

Enquiries Solicited for all Kinds of

WRAPPINGS, PRINTINGS, AND WRITINGS.

Sole Agents for Several Continental Mills.

26, UPPER THAMES STREET, LONDON, E.C.4.

Finska Pappersbruksföreningen

(THE FINNISH PAPER MILL ASSOCIATION).

Sales organisation for all the 31 paper mills of Finland, with 70 paper machines and 220,000 tons yearly capacity, out of which about 40 per cent. is news.

Telegraphic Address: "Finpap, Helsingfors."

Finska Cellulosaföreningen

(THE FINNISH CELLULOSE UNION).

Sales organisation for all cellulose mills of Finland, with a yearly capacity of 250,000 tons.

Telegraphic Address: "Finncellulosa, Helsingfors."

Finska Träsliperiföreningen

(THE FINNISH WOOD PULP UNION).

Sales organisation for 25 pulp and board mills of Finland, with a yearly capacity of 140,000 tons.

Telegraphic Address: "Sliperierna, Helsingfors."

KNUT EGGERS

PAPER AGENTS
and MERCHANTS
HOME and EXPORT

*SPECIALITIES:*_____

**KRAFT BROWN, CAP
SULPHITE
GREASEPROOF NEWS**

PARIS.
(Head Office)

8, Oite Pigalle (9e)

Télégrams: "Kneggers, Paris"
Telephone (2 lines)
Central 46-62. Louvre 20-44.

LONDON.
(Branch Office)

58, Ludgate Hill,
E.C.4.

Telegrams:
"Editorship, Cent, London"
Telephone City 7542

Please apply for quotations and samples.



Protective Papers.

Glassine, Greaseproof, Parchmoid

Vegetable Parchment and Spinning Parchment,

Also Manufacturers of Diamond-Fibre
Trucks, and Receptacles.

Diamond State Fibre Company

Bridgeport, Pa. (near Philadelphia), U.S.A

London Address: High Road, S. Tottenham, N.15.

L. S. SMALL & Co. (J. L. SHAW,)
Proprietor

PAPER MERCHANTS.

Always in Stock: **BROWN WRAPPINGS & KRAFTS**

45/49, Blackfriars St., 'Phone: 6043 CITY.
MANCHESTER. 'Grams: "Small, Lightning, Manchester."

NORMAN EVANS,

427-438, PRODUCE EXCHANGE,
MANCHESTER.

12, MANNINGHAM LANE,
BRADFORD.

Manufacturer of

**SPIRIT, OIL & WATER SOLUBLE NIGROSINES,
LIME BLUES, LIME GREENS, LITHOL RED
LAKE, ULTRAMARINE BLUE SUBSTITUTE, Etc.**

ENQUIRIES ESTEEMED.

AUTOMATIC KNIFE GRINDERS

FOR

Grinding Paper Cutting Knives

of all kinds from 6" to 130" in length, with
straight or concave bevel as desired. Prompt
deliveries on all sizes. Full particulars from:

HONEYWILL BROS.

79 MARK LANE, LONDON, E.C.3

ROZOLENE SIZE

FOR PAPERMAKERS.

Sole Makers:

THE ROZOLENE CO.,



**49, DEANS GATE,
MANCHESTER.**

FELBER, JUCKER & CO.

(Established 1860)

LTD.

MANCHESTER:

Head Office:—

29, PETER STREET.

Telephone:—
CITY 7700 (Private Exchange).

Telegraphic Address:—
"FELBER, MANCHESTER."

LONDON:

37, WALBROOK, E.C.

Telephone:—
BANK 210.

Telegraphic Address:—
"FELBER, GARRON, LONDON."

CODES:

A.B.C. 5th and 6th Edition. Liebers. Western Union. Hamiltons. Private.

Branch Offices:—

BOMBAY, BUENOS AIRES, JOHANNESBURG and MILAN.

WHOLESALE ONLY

Papermakers' Agents

WHOLESALE ONLY

Largest Importers & Exporters of All Classes of
BOARDS & PAPERS

Agents: **Finnish Board Union**

Comprising:—

Enso, Myllykoski, Kymmene, Tammerfors, Karhula, Pankakoski,
Kaltimo, Aankoski, Hamikoski, Ingerola, Lonnqvist, Herrfors,
and Nasijarvi Mills.

THE
TRADE **"LEADER"** MARK

**ENVELOPE FOLDING &
GUMMING MACHINE**

**FASTEST AND SMOOTHEST RUNNING
MACHINE ON THE MARKET.**

Sealing flaps gummed and
dried at a speed of 120 enve-
lopes per minute.

**UNRIVALLED FOR—SPEED,
EFFICIENCY and EXCEL-
LENCE OF GUMMING.**

David Carlaw and Sons,
31, Finnieston St., Glasgow. *Limited.*

Telephones: 1262/3 Central.
Telegrams: Automaton, Glasgow.



London Agents:

JOHN W. BAINBRIDGE, LTD., 28, FINSBURY PAVEMENT, LONDON, E.C.2.

**HAMMERMILL
BOND**

**HAMMERMILL
COVER**

**HAMMERMILL
LEDGER**

**HAMMERMILL
SAFETY**

**HAMMERMILL PAPER Co.'s
AGENCY,**

THE LINDENMEYR & JOHNSON PAPER CO., LTD.,

Telegrams } Usapacol. 11b Upper Thames Street, E.C. 4. Telephone { City 188.
and Cables } Cent. London. 189.

Telephone:
6231 CENTRAL.

Telegrams:
"FISKEBYAG, LONDON."
Code 5th Ed. A.B.C.

ERIK FERNSTROM,

171, QUEEN VICTORIA STREET, LONDON, E.C.4.

Papermakers' Agent and Merchant - -

Supplier of -

M.G. PURE SULPHITE, excellent quality for bag making.

M.G. SULPHITE WRAPPINGS.

M.G. MECHANICAL CAPS.

GREASEPROOFS.

TISSUES.

M.G. THIN SULPHITE, excellent for Waxing purposes.

KRAFT PAPERS.

GLAZED PRINTINGS.

NEWS.

ETC.

SOLE AGENT in the United Kingdom for -

Fiskeby Fabriks Aktiebolag.,

SWEDEN.

FISKEBY MILLS.

LJUSFORS MILLS.

SKARBLACKA MILLS.

Makers of 30,000 Tons of Paper per annum.

AULD'S Patent REDUCING VALVES

are well-known to ENGINEERS in
PAPER MILLS throughout the world.

Our New Patent "QUITETITE" Valve

is highly
recommended
for its
SIMPLICITY
and has
already
established
itself as



THE MOST
ACCURATE
& RELIABLE
REDUCING
VALVE
ON THE
MARKET
TO-DAY.

*We have
received*

NEARLY A
HUNDRED YEARS'
EXPERIENCE
IS BEHIND OUR
VARIOUS
SPECIALITIES, VIZ.,

*countless
Repeat Orders.*

REDUCING, SAFETY,
SURPLUS AND STOP
VALVES,
AUTOMATIC
EXHAUST VALVES,
ETC.

Catalogues on application.

DAVID AULD & SONS, Ltd.
WHITEVALE FOUNDRY, GLASGOW.

Estd.



1848

Cole, Marchent & Morley Ltd.

Telephone
724 Bradford

Bradford Yorks.

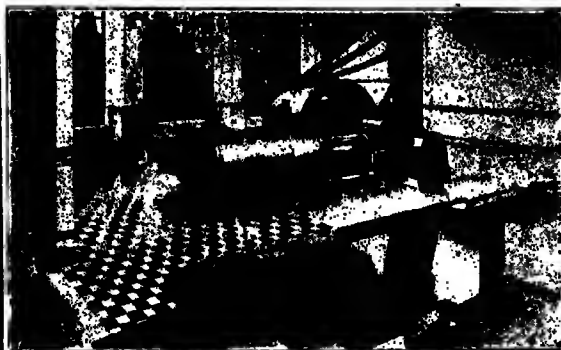
Telegraph:
"Cole, Bradford."

O., M. & M.

CENTRAL EXHAUST STEAM ENGINES, with Piston Dr.
Valves, and Patent Combined Drain, Exhaust and Relief Valves.

HEAT EXTRACTION ENGINES for installations where
steam is required in the works for heating or process work.

Catalogues gladly sent on request.



1,000 L.H.P.C. M & M. Central Exhaust Steam Engine Installation.

UNIFLOW STEAM ENGINES.



Specially suitable for Paper Makers. Strongly built.
Very Reliable. High Economy.

HICK, HARGREAVES & CO. LTD.,
BOLTON, **ENGLAND.**

ESTABLISHED 1832.

Telegrams: "HICK, BOLTON." Phone: 1373.

Makers of Corlies, Drop Valve and Uniflow Steam Engines, Diesel Oil Engines, Condensing Plant, Mill Gearing.



Telephone No.:
CITY 680.

Telegraphic Address: "OLDRUSEN, LONDON."
Code: Fifth Edition A B C

T. V. OLSEN,

LAMBERT HOUSE, 10-12, LUDGATE HILL,
And 2-3, AVE MARIA LANE, LONDON, E.C.

Papermakers' Agent & Merchant.

SPECIALITIES:

KRAFT PAPERS, M.G. SULPHITE
PAPERS, TISSUES, GREASEPROOF
and all Classes of Paper for Bag Makers.

EXPORTERS OF PAPER
are asked to send their enquiries.
Papermakers and Board Mills are
invited to send offers of any class
of Papers and Boards, and also
stock lines of any kind. Prompt
Settlements.

Sole Agent for Great Britain and Ireland for

Torps Brug Aktieselskab,
FREDRIKSSTAD, NORWAY,
Makers of UNGLAZED & M.G. KRAFTS

Wargöns Aktiebolag,
WARGÖN, SWEDEN
Makers of M. G. SULPHITE PAPERS,
Pure and Mixed.

The Cost of a Paper Machine Wire can be figured only on the basis of Service Rendered

Rapid strides are being made to-day in combining metals to produce a result which will give greater service.

A metal has been perfected for the manufacture of wires, other than Fourdriniers, for paper and pulp mills, called NICKEL ALLOY.

O'NEILL NICKEL ALLOY WIRES have demonstrated by their performance in some of the largest mills in the United States, that their life and service show approximately 400% better investment for the pulp and paper manufacturers. Upon request testimonials will be gladly submitted.

We recommend that you try the O'NEILL NICKEL ALLOY WIRES. They cost more but they are worth it.

We also manufacture very durable paper machine wires of brass and bronze in plain, double warp, triple chain and twisted weaves.

Joseph O'Neill Wire Works
Southport - Connecticut, U.S.A.

AKTIEBOLAGET HELSINGE TRÄEXPORT

(Formerly Arvid Ordqvist.)

OFFICES: SOMMEN, SWEDEN.Shipments from Baltic Ports and Gothenburg.
Yards at Söderhamn, Gefle, and Gothenburg.

About 12,000 standards per annum.

**EXPORTERS OF SAWN AND PLANED WOOD GOODS,
WOOD-TAR AND TURPENTINE.****BOXBOARDS & WOODPULP**

Shipping Marks for Sawn and Planed Goods:

1sts	-	-	H	+	T	4ths	-	-	H	-	T
2nds	-	-	H		T	5ths	-	-	H	V	T
3rds	-	-	H	+	T	6ths	-	-	H	W	T

Unsorted: Helsing.

Telegraphic Address: "Helsing, Sommen."

**HANDELSFIRMAN SOLO
STOCKHOLM C. SWEDEN.**

Export of

**Scandinavian Paper
Pulp and Boards**

all kinds.....

Commission Merchants and Agents.

Telegraphic Address—"SOLO, STOCKHOLM."



**Telegraph Tape.
Perforator Rolls.
Cable Recording Rolls.
Cash Register Rolls.
Adding Machine Rolls.**

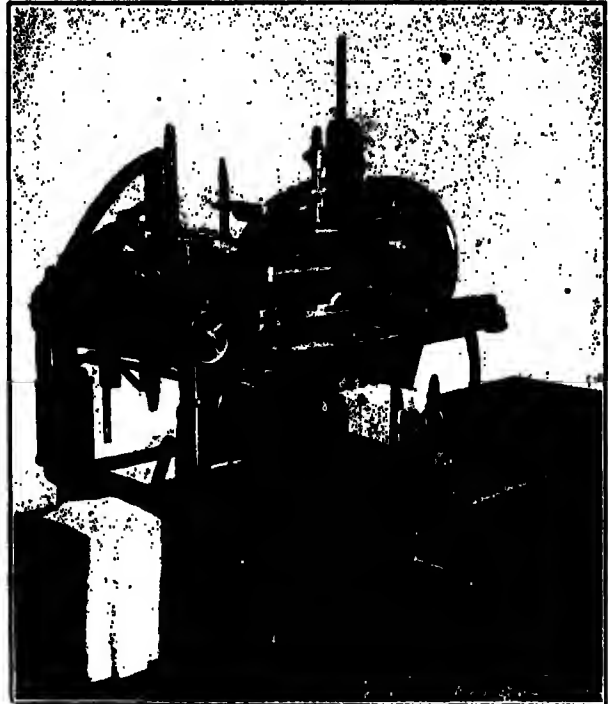
WE ARE THE LARGEST MANUFACTURERS
OF VARIED SMALL ROLL PRODUCTS IN
AMERICA.

PAPER MANUFACTURERS CO., INC.
520, CHERRY STREET, PHILADELPHIA, P.A.

Cable Address: "Paman."

THE CARMIC

**AUTOMATIC ADJUSTABLE
ENVELOPE OR BAG FOLDING
MACHINE.**

BRITISH MADE THROUGHOUT.**ADVANTAGES OF THE CARMIC:**

1. Any size Envelope or Bag can be folded upon the "Carmic," within the specified range of each Machine which is practically unlimited.
2. The change from one size to another being carried out in about one hour. No additional boxes needed. Same box used for all sizes.
3. All classes of paper can be folded.
4. Out-put of Machines from 28,000 to 32,000 per day.
5. Does not require special skill to operate.
6. Very little motive power is needed to drive Machine.
7. Best material and workmanship throughout.
8. Space required for machine and operator, 7ft. x 5ft.
9. Machines supplied ready for working.



Prices and Particulars to be obtained from

Peter Carmichael & Co., Ltd.

303, SOUTHAMPTON STREET,
CAMBERWELL, LONDON, S.E.5.

Telephone:
Hop 479

Telegrams:
"Encarmicom, Camb,
London."

Do You know these Papers ?

THEY are Members of the British Association of Trade and Technical Journals, Ltd., a progressive organisation of over 150 journals, having as one of its chief objects the expansion of British trade through an efficient business Press.

These journals can help you if you need up-to-date information about any trade or industry, or if you want to know about new processes—or goods—or sources of supply.

They offer you the most effective means of finding new markets at home or overseas for the goods you produce or sell; they can help you to solidify and extend your present markets.

They invite enquiries on any technical or commercial matters in the various branches of industry they represent.



The address of any Paper in this list may be obtained from the Secretary of the

**British Association
of Trade & Technical
Journals, Ltd., :: ::**

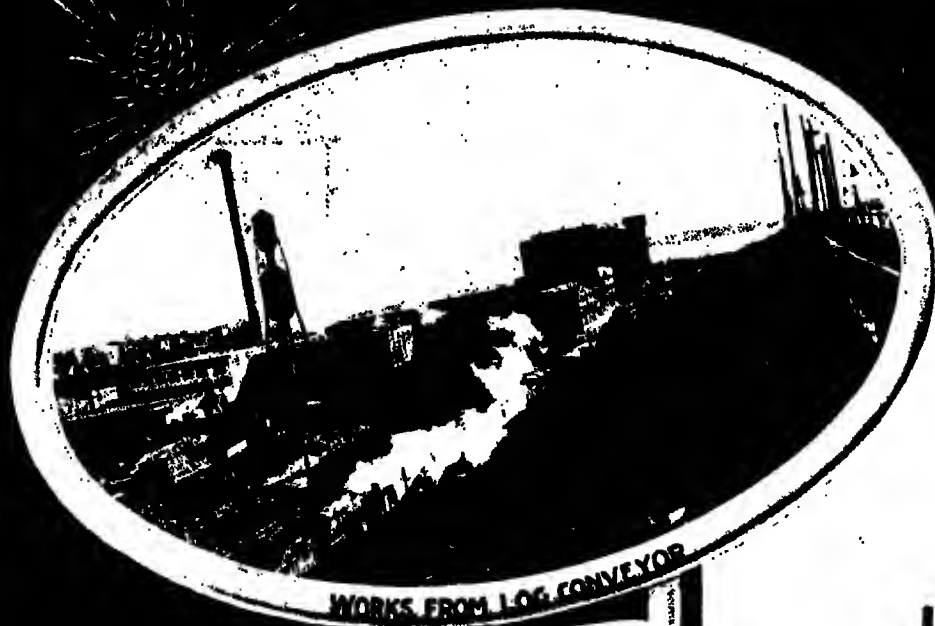
Sicilian House, London, W.C. 1.

Telephone No.: HOLBORN 395.

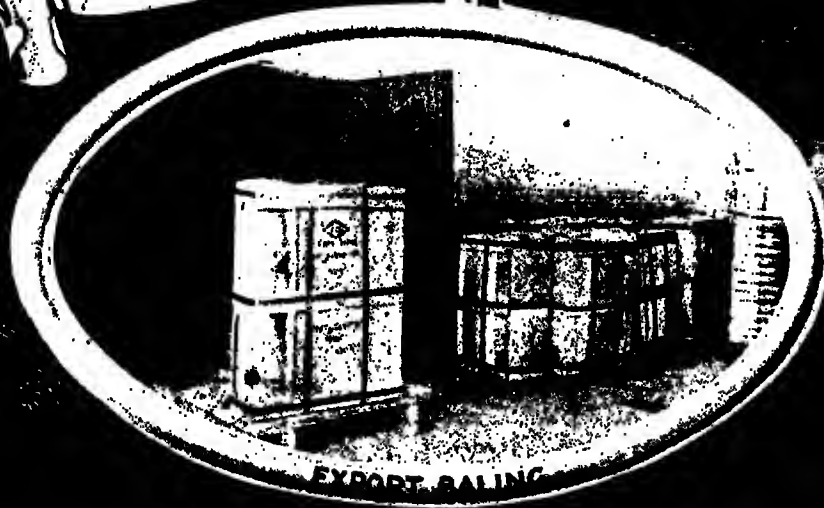
Aeroplane (London).
Auto-motor Journal (London).
Auto-Cyclist (Sydney).
Bioscope (London).
Brewers' Gazette (London).
Brick & Pottery Trades' Journal (London).
British & Colonial Mineral Water Trade Journal (Cardiff).
British & Colonial Pharmacist (London).
British Baker (London).
British Journal of Photography (London).
Chemical News (London).
China Clay Trade Review (London).
Confectionery Journal (London).
Corn Trade News (Liverpool).
Dairy & Creamery Journal (London).
Dairymen (London).
Decorator (London).
Drapers' Organiser (London).
Electrical Industries & Investments (London).
Electricity (London).
Electric (London).
Engineering Review (London).
Fancy Goods Record (London).
Fertiliser & Feeding Stuff Journal (London).
Fine Art Trade Journal (London).
Flight & The Aircraft Engineer (London).
Footwear Organiser (London).
Freemason & Masonic Illustrated (London).
Hardwareman & Ironmonger's Chronicle (London).
Indian Medical Gazette (Calcutta).
Indian & Eastern Engineer (Calcutta).
Indian Motorist (Calcutta).
India Rubber Journal (London).
Journal of Decorative Art (Manchester).
Licensing World (London).
"Locomotive" & Railway Carriage and Wagon Review (London).

Marine Engineer & Naval Architect (London).
Mechanical World (Manchester and London).
Milling (Liverpool).
Model Engineer & Electrician (London).
Motor Cycle & Cycle Trader (London).
Motor Expert Trader (London).
Motor in Australia (Sydney).
Motoring in South Africa (Cape Town).
Motorist & Wheelman (Perth, W.A.).
Motor Magazine of Canada (Toronto).
Motor Trade of Canada (Toronto).
Motor Trader & Review (London).
Music Trades Review (London).
National Association Review (London).
N.Z. Motor & Cycle Journal (Auckland, N.Z.).
Organiser (London).
Onlifter (London).
Paper Box & Bag Maker (London).
Paper Maker & British Paper Trade Journal (London).
Photographic Dealer (London).
Power Laundry (London).
South African Motorist (Johannesburg).
South Australian Motor (Adelaide S. Australia).
Sports Trades Journal (London).
Stationary World (London).
Steering Wheel (Brisbane).
Sugar Journal, International (London).
Textile Manufacturer (Manchester).
Textile Mercury (Manchester).
Toys and Fancy Goods Journal (London).
Waste Trade World (London).
W.A. Motorist (Perth, W.A.).
World's Carriers and Carrying Trades' Review (London).

WAYAGAMA



WORKS FROM LOG CONVEYOR



EXPORT BAILING

PURE KRAFT



WATER SUPPLIES.

for

BORE HOLES

and High Class

PUMPING MACHINERY.

Consult

WILLIAM M. MATTHEWS & CO. LTD

Moston Lane
MANCHESTER.

MUSGRAVE'S FANS and HIGH-SPEED ENGINES.

For all purposes where
air requires to be moved.

Induced Draft
for Boilers.

Forced Draft.

Drying.

Dust Removal.

Complete Schemes Designed and
Installed.

MUSGRAVE & Co., Ltd.,

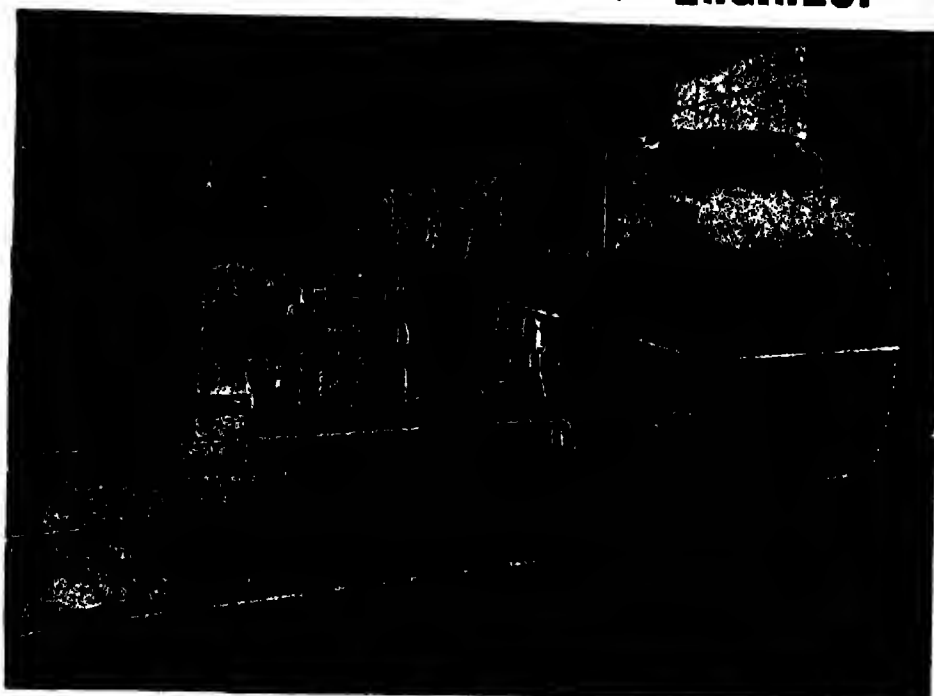
48, Deansgate, MANCHESTER

Sardinia House, Kingsway,
LONDON, W.C.1

24, Queen Street, CARDIFF.

Head Office:

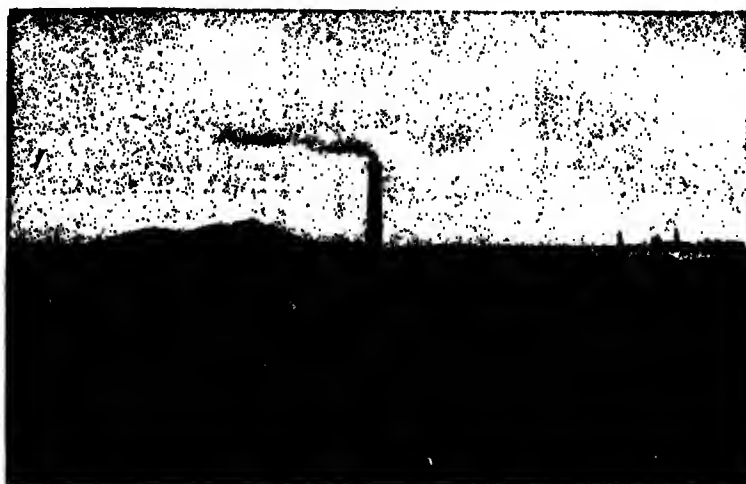
St. Ann's Ironworks, BELFAST.



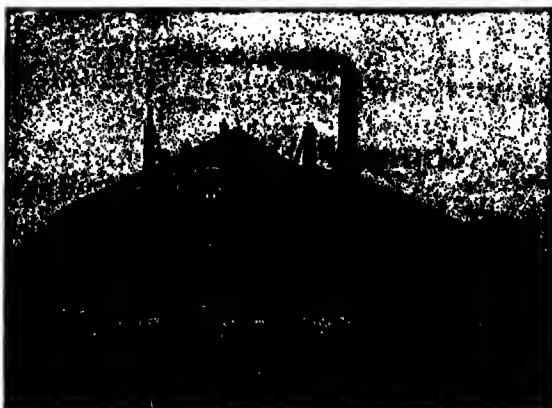
Three large Induced Draft Fans recently installed in the Corporation Power Station, Bradford.

THE UNITED WIRE WORKS LTD.

EDINBURGH, GLASGOW, & NEWCASTLE-ON-TYNE.



EDINA WORKS, EDINBURGH.



BALTIC WORKS, GLASGOW.



CARNTYNE WORKS, GLASGOW.

Paper-Machine Wires

ALL MESHES, AND UP TO 20 FEET WIDE.

CYLINDER COVERS.

WIRE CLOTH of all kinds in Brass, Copper, Bronze,
and Steel, Plain, Tinned, Galvanised or Painted.

GREENHALGH & CO.

Sulphite Sulphate — AND — Mechanical Pulp.



LONDON :

56, Cannon Street, E.C.

Wire : "INCITATUS."

'Phone : CITY 3382.

MANCHESTER :

15, Cross Street.

Wire : "INCREMENT."

'Phone 2027 CITY.

**Bronze Blue & Polishing Bronze Blue
Woodley Scarlet, and all Colours for Paper Coating**

ASHBROOKS LIMITED
(1920)

46a, Market Street, MANCHESTER.

WOOD MILL,

Works:

WOODLEY nr. STOCKPORT.

Tel.: 6577 CITY, MANCHESTER.
125 DENTON, WORKS.

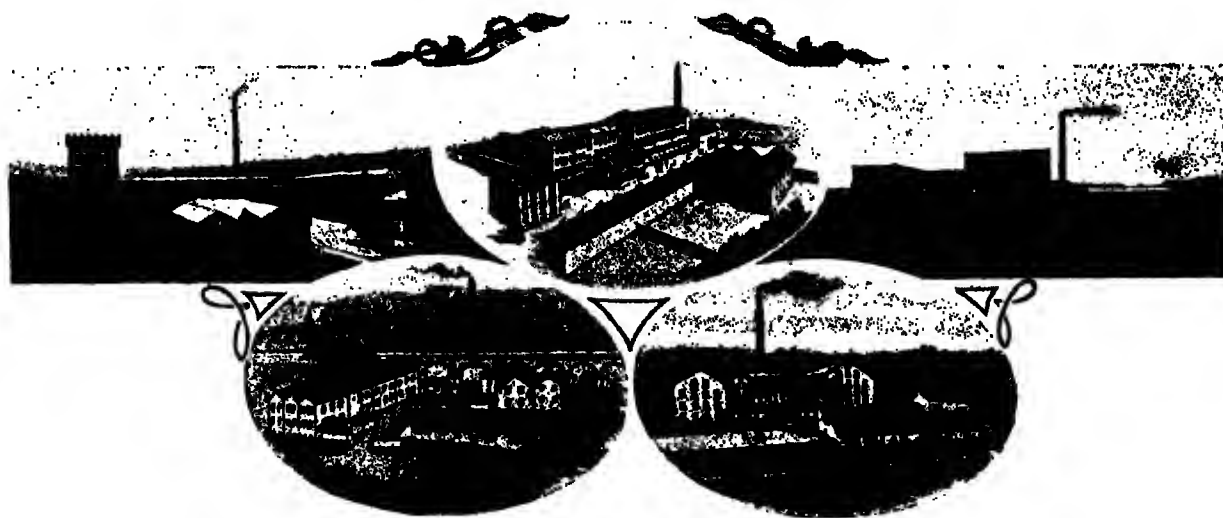
Grants, ACETIC, MANCHESTER.
ACETIC, WOODLEY.

ALL COMMUNICATIONS TO MANCHESTER OFFICE.

Samples Matched on Shortest Notice.

Manufacturers of all Classes of Colours and Pigments.

PORRITTS & SPENCER, LTD.



Telegrams :

EXPORT, BURY.

Telephones :

607 and 608 BURY.

Head Office :

BURY, - LANCs.

Branches :

PORRITT BRO. & AUSTIN, LTD.

JOSEPH PORRITT & SONS, LTD.

SAMUEL PORRITT & SONS, LTD.

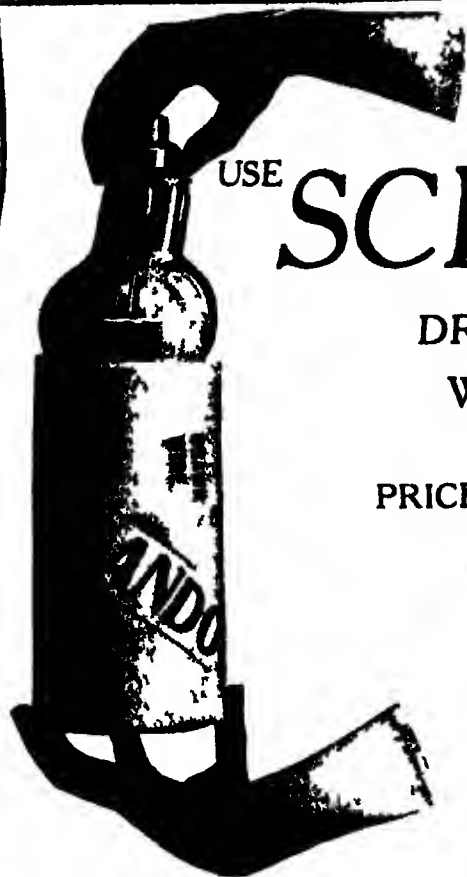
J. H. SPENCER & SONS, LTD.

The Largest Manufacturers in the World

OF

PAPERMAKERS'

FELTS & JACKETS



GIVE YOUR WORKPEOPLE A CHANCE
TO INCREASE PRODUCTION.

USE

SCEANDO

"HALF-WATT"
TYPE

DRAWN
WIRE

LAMPS

PRICES AND DISCOUNTS ON APPLICATION

Crowther & Osborn, Ltd.

7, Blackfriars Street, Salford, MANCHESTER.

Lamp Works BOLLINGTON, MACCLESFIELD
Glass Works Salford and BREDBURY

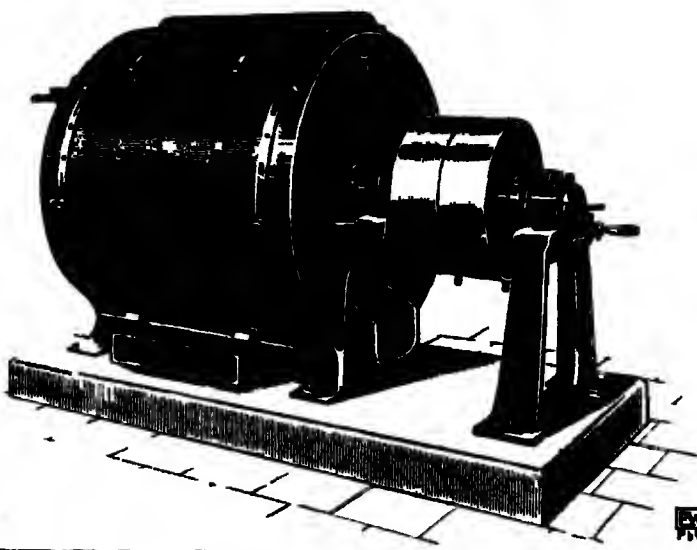
Telegrams "CRANDOS"

Telephone 7207 CITY



ESCHER WYSS & CO. S.A.

Zurich (Switzerland).



**CENTRIFUGAL SCREEN
FOR WOOD GRINDING
MILLS.**

**COMPLETE PAPER MILL
INSTALLATIONS.**

LONDON OFFICE:

20, Grosvenor Gardens, Westminster, S.W.1.

TELEPHONE: VICT 9120 & 9121

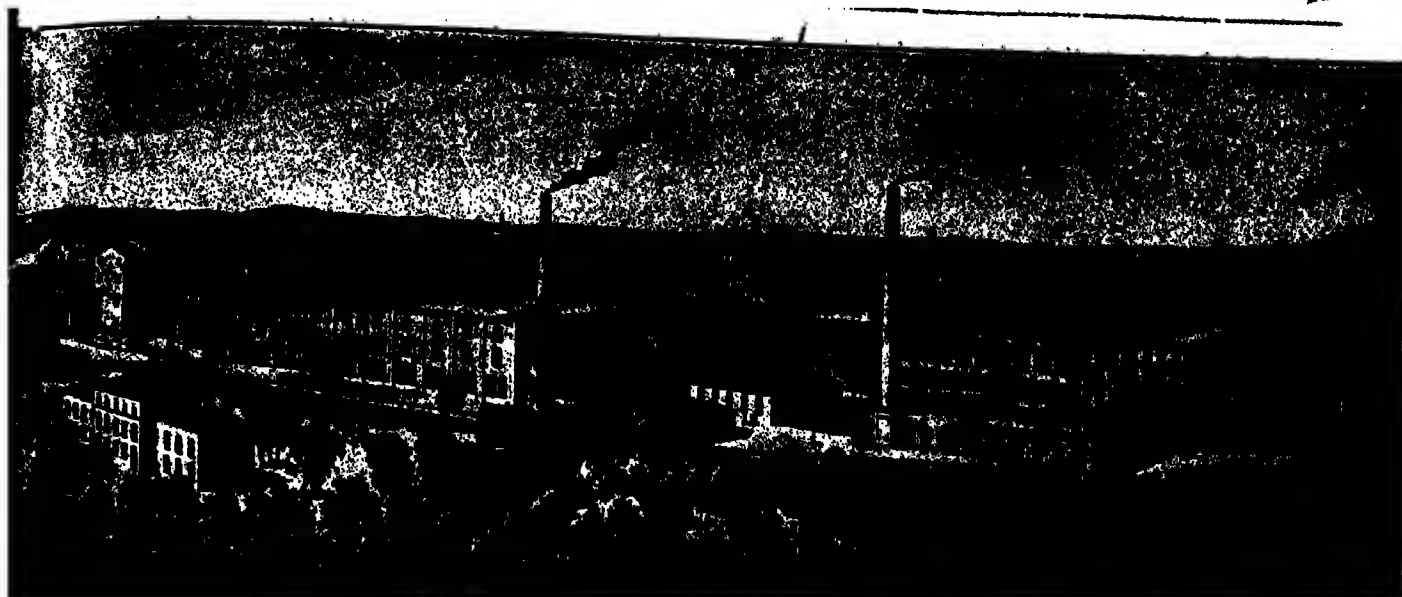
TELEGRAPH: ADDRESS: ESCHER WYSS & CO. S W I N

TOKYO OFFICE:

3, Uchisaiwaicho Itchome
Kojimaoh-Ku.

MONTREAL OFFICE:

212, Coristine Buildings.



A VIEW OF ONE OF OUR MILLS. YEARLY OUTPUT 24,000 TONS.

Write for Samples & Quotations to **R. L. LUNDGREN,**

ESTABLISHED 1874.

LIMITED,

113, Queen Victoria Street, London, E.C.

and at 2, ST. ANDREW SQUARE, EDINBURGH.

Telephone No: 6058 City (Two lines).

Telegraphic Address: "Lundgren, Cent. London."

Fine Folding Enamelled and Faced Boards
REELS or SHEETS.

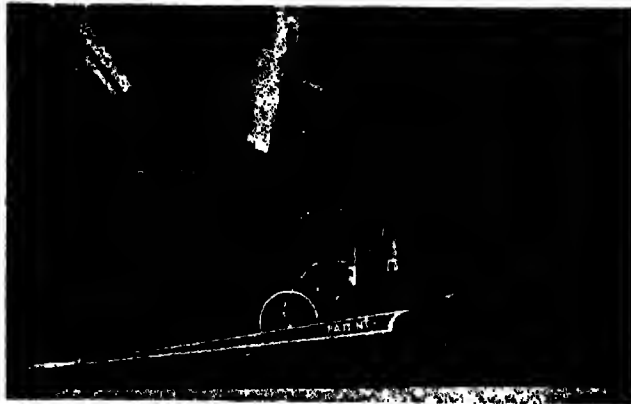
Fancy Papers. Leather Papers.
Wood Pulp Boards and Middles.

Specialists for the FOLDING BOX TRADE

U.K. Trade and World Exports.

Products of Fore

Patent Non-Stop Felt Cleaner.



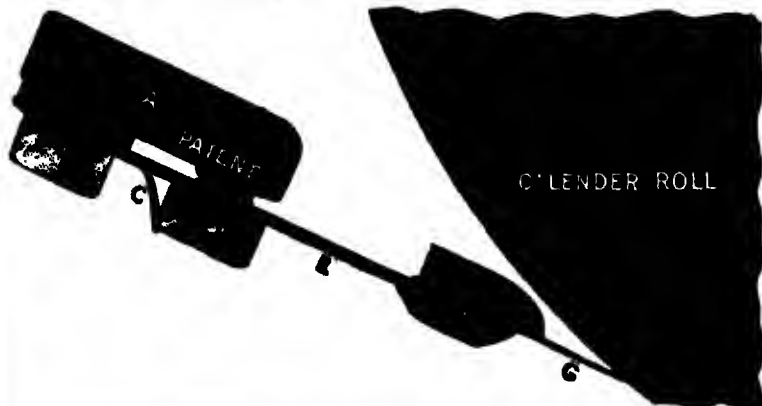
A PRACTICAL and up-to-date means of felt cleaning, eliminating the present time, labour and money wasting method of felt washing. Cleans felts while paper is being made. No stopping to "wash-up." Increases the life of felts from 25% to 50%. Increases output. Keeps felts "open" and the nap "up" thus improving the quality and character of the sheet. Can be operated instantaneously. If applied periodically, keeps felts free from "dirt" of every kind. A proved success.

"Vickery" Patent Automatic Loading Transporter

THE "Vickery" Automatic Loading Transporter, operated in conjunction with trays, enables paper to be loaded or unloaded in bulk, without touching by hand during "trucking" from cutting to despatch. It is the pioneer machine, developed to meet present-day needs. Has 2½ inches of lift and other exclusive features. Thousands in use.



"Vickery" Patent Self-Adjusting Non-Scoring Doctor.



A PRACTICAL remedy for the present unmechanical rigid Doctor, with its worry, costly upkeep, loss of output and waste. Will doctor every part of the roll or cylinder all the time and without scoring. Automatically adjusts itself to the roll. A proved success.

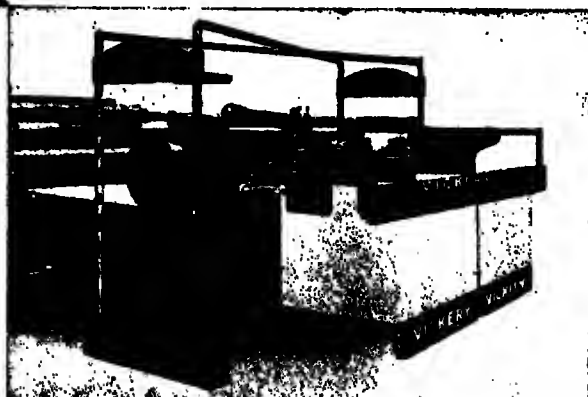
sight & Experience

Patent Continuous Beate Extractor.



GIVES continuous action to Beaters. Suitable for waste-papers, "broke" and board fillings. In successful operation.

"Vickery" Patent Layer (Laybey or Catcher).



THE "Vickery" Layer is the recognised standard machine for handling paper at the end of the cutter. It was the pioneer machine, and as a result of its successful development, is now in operation in over 80 per cent. of British Mills. Over 75 per cent. of our orders have been "repeats." It is successfully laying every class of paper from 5 lbs. large post (cut single sheet) to cards. Increases production, reduces costs, saves labour and "broke." Stacks direct on to trays for use with "Vickery" Automatic Loading Transporters.

VICKERYS (1920) LTD.,

49, BEDFORD SQUARE,

LONDON, W.C.1.

Telegrams: "Vikfeed, London."

Telephone: Museum 5141

HIGHEST GRADE
GLUES
AND
GELATINES

Extensively used for
Paper-Making and Paper Coating.
FREE OF GREASE AND ACID. MOST RELIABLE.

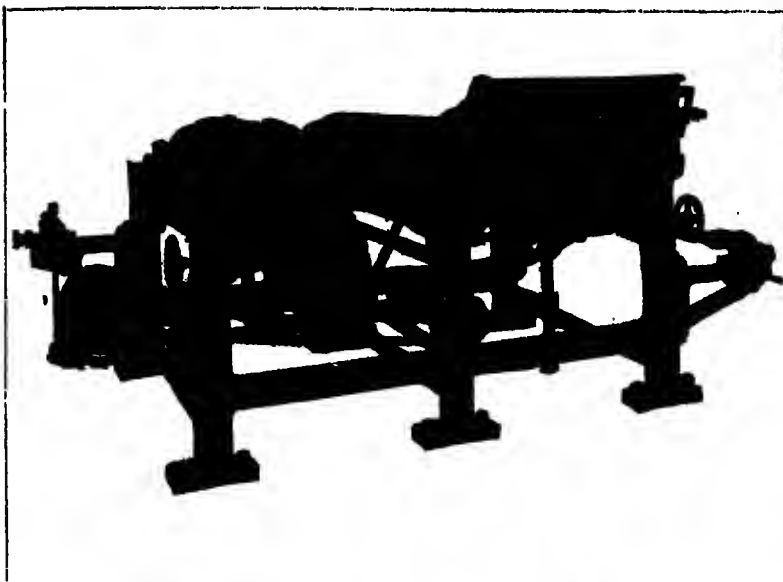
SUPPORT HOME INDUSTRY, AND SEND FOR SAMPLES TO THE MANUFACTURERS;
EDWARD GORTON, Ltd., ^{PADDINGTON} **WORKS, Nr. WARRINGTON.**

Branch Works : **CHESHIRE GELATINES, Frodsham Bridge.**

Charles Briscoe & Co., Ltd.
offer

PAPER IN MANY
QUALITIES
from Warehouse and Mill.

77, KNIGHTRIDER STREET, LONDON, E.C.4.
Telegrams : Excharbri, Cent, London. Telephone : City 5484.



BRUSHING MACHINE, QUADRANT ADJUSTING.

**We now specialise in all
auxiliary Machinery for
Paper Mills.**

Complete Plants for Gelatine and Emulsion
Plants for Photographic Paper.

Baryta Coating Plants.

Art Enamel and Tin Foil Coating Plants.

Reeling Machines.

Brushing Machines

Super-Calenders for all purposes,
from 5 to 10 Bowls.

We also specialise in Woollen, Paper,
and Cotton Bowls for the Paper
Trade

Place your orders with a British Firm,
and keep the Paper-Making Machine
Industry at home.

All Patterns and Designs of the above
Machines can be supplied, also Elec-
trical Equipment to drive the plant, if
desired.

Park Works,
MANCHESTER.

Mather & Platt, Ltd.

Queen Anne's Chambers,
LONDON, S.W.

BERNER & NIELSEN

LONDON: 57, GRACECHURCH STREET, E.C.

Telephones:

London: Avenue 5435 (Two Halls).
Manchester: City 1638.
Edinburgh: Central 58.
Paris: 141-12.
Brussels: 119-71.

Telegraphic Addresses:

"Bernier, Grace, London."
"Bernier, Manchester."
"Bernier, Edinburgh."
"Nielsen, Paris."
"Bernielsen, Brussels."

MANCHESTER:
38, Deansgate.

PARIS:
24, Rue de Milan.
BRUSSELS:
28, Galerie de la Reine.

EDINBURGH:
13, George Street.

WOOD PULPS

Improvements in Calender Bowl Manufacture.

Paper Bowls Built up on Patent :: Anti-Slipping Principle. ::

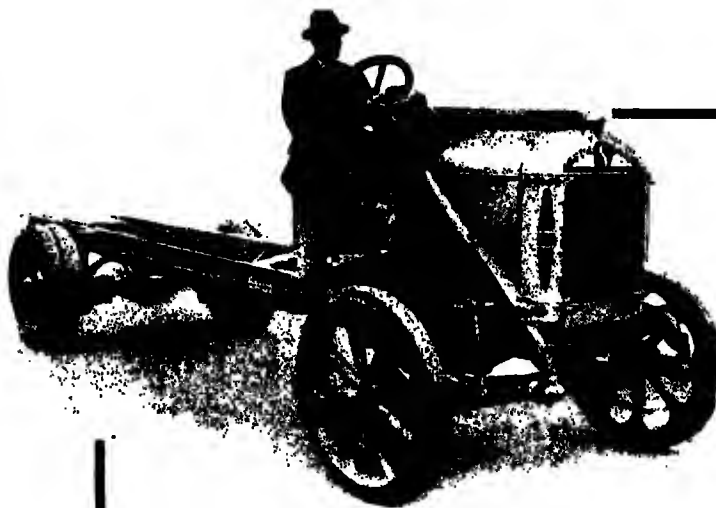
An Absolute Necessity for Wide Bowls.

JACKSON & BROTHER, Limited,
Engineers and Calender Bowl Makers,
WHARF FOUNDRY, BOLTON.

Telegrams:—"JACKSON, BOLTON."

Telephone:—No. 34 BOLTON.

Representative:—A. E. LEICESTER.



DIMENSIONS.

Wheel Base .. 14' 6"
Wheel Track .. 6' 0"
Overall Width .. 7' 2"
Total Length .. 22' 8"
For Goods: 3-5 tons.

A CATALOGUE WILL BE
SENT ON APPLICATION



The Authoritative Leader.

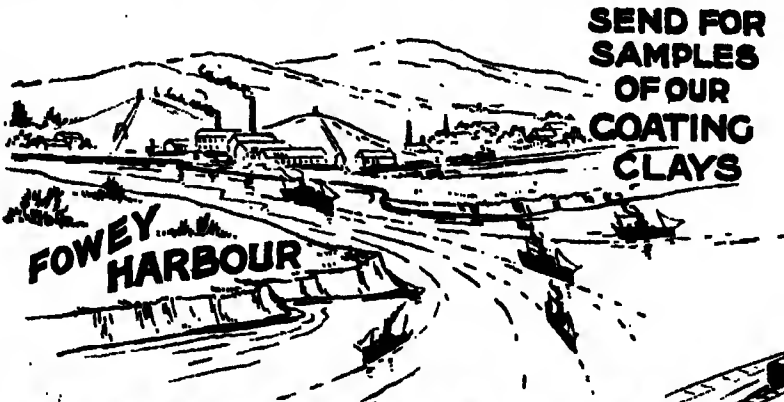
Never has commercial vehicle construction been brought to a higher standard than in the **STRAKER-SQUIRE "A" Type 55 h.p. 3-5 TON CHASSIS**. This machine represents a great advance, embodying as it does the most original design and the soundest workmanship, and has yet to be equalled for its consistent service qualities and remarkable durability.

For bulky loads a platform space of 15' 8" is given without any excessive overhang.

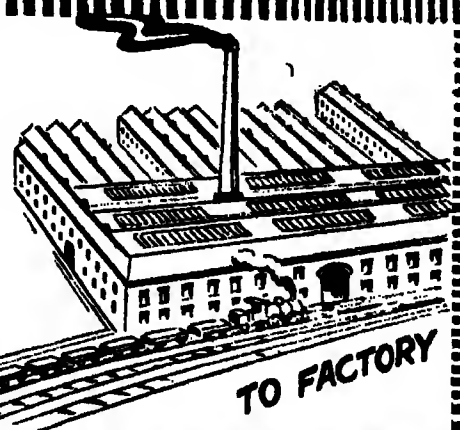
The STRAKER-SQUIRE Earns the EXTRA Profit

STRAKER-SQUIRE, LTD.,
Angel Road, Edmonton, London, N.18.

Telephone: TOTTENHAM 2393 (10 Lines).
Telegrams: "RHOMBODAL, TOTTLANE, LONDON."



SEND FOR
SAMPLES
OF OUR
COATING
CLAYS



CHINA CLAY

ALL GRADES *FOR* PAPERMAKERS

H.D. POCHIN & CO LTD

CHINA CLAY
MINEOWNERS. &
CHINA STONE
QUARRYOWNERS.

MANCHESTER



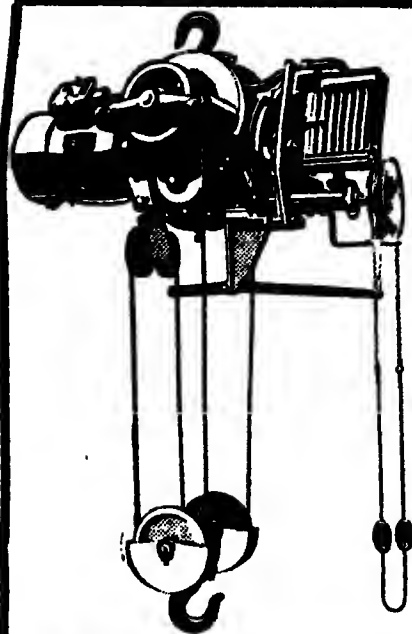
CONTROLLING 200,000 TONS ANNUALLY.



FROM MINE

ESTABLISHED OVER
100 YEARS.





A FEW USERS.

The Admiralty	London
The War Office	London
The India Office	London
The Ministry of Munitions	London
Darwen Paper Co., Ltd.	Darwen
Dixon, Peter & Co., Ltd.	Grimsby
Dickinson, J. & N., Ltd.	Hemel Hempstead
The Empire Paper Mills, Ltd.	Greencliffe
Irish Paper Mills Co., Ltd.	Dublin
Spicer, James, & Sons, Ltd.	Mahlsone
Thames Paper Co., Ltd.	Purfleet
Wallpaper Manufacturers, Ltd.	London
Etc., Etc.	

THE VAUGHAN

PATENT

ELECTRIC BLOCK

SPEED-UP YOUR LIFTING WORK

THE VAUGHAN ELECTRIC BLOCK exactly satisfies a want which has been long felt in the Paper Making and Allied Industries, i.e., the need for a reliable, self-contained, and power-driven hoist, which can be slung up anywhere ready for instant use on the connection of a flexible supply cable, or when fitted to a trolley, for travelling on the bottom flange of an overhead "I" section runway track.

STANDARD SIZES:

5-Cwts., 1-Ton, 1-Ton, 1½-Tons, 2-Tons, 3-Tons and 4½-Tons.

Supplied for D.C. or A.C. 2-phase or 3-phase.

IT SOON PAYS FOR ITSELF.

A LABOURER CAN WORK IT.

Please ask for our Descriptive Booklet No. 7.

THE VAUGHAN CRANE Co., Ltd.

(FORMERLY VAUGHAN & SON, LTD.)

OPENSHAW, S. MANCHESTER.

Also Makers of Electric and Hand Power Travelling
Cranes, Overhead Runways, Hand Pulley Blocks, etc.

Telegrams—"VAUNTING, MANCHESTER."

Telephones—256 OPENSHAW, 5115 CENTRAL.

The "PROCTOR" Shovel Stoker and Patent Ram Feed Coal Elevator.

AN IDEAL COMBINATION for SAVING COAL AND LABOUR, increasing steam production, and giving a clean boiler-house. The Stoker as a result of over 40 YEARS' practical working HOLDS THE PREMIER POSITION amongst Mechanical Stokers, and gives the HIGHEST BOILER EFFICIENCY WITH THE LOWEST COST OF UPKEEP.

OVER
16,000
FURNACES
FITTED.

Messrs. OLIVE & PARTINGTON

AND

KELLNER-PARTINGTON PAPER PULP Co., Ltd.,

have adopted the "PROCTOR" Stoker and Coal Elevator at their
TURN LEE PAPER MILLS, GLOSSOP on 20 furnaces
BROUGHTON BRIDGE PAPER MILLS, MANCHESTER .. 8 ..
BARROW-IN-FURNESS PAPER PULP WORKS 16 ..

AND ALSO AT THEIR PAPER WORKS IN AUSTRIA.

BURNLEY PAPER WORKS CO., LTD. 4 ..
HENDON PAPER WORKS CO., LTD., SUNDERLAND 8 ..
NORTH WALES PAPER CO., LTD., FLINT 6 ..
YATES, DUXBURY & CO., LTD., BURY 4 ..

JAS. PROCTOR, Ltd., Hammerton Street Iron Works, **Burnley**

"Magnet," Manchester 7094 Central
"Orders," Cannon, London. 5370 City

Electromotors Limited
OPENSHAW:
Manchester, England.
London. 49 Queen Victoria Street, E.C.



ELECTRIC
DRIVING
of
PAPER MACHINERY

CLARKE, CHAPMAN & CO. LTD.

—Victoria Works—
GATESHEAD

General and Electrical Engineers and Boiler Makers

Water Tube Boilers ("Woodeson" Patents)
FOR ALL DUTIES

Pumps ("Woodeson" Patents)
IN ALL SIZES AND FOR ALL PURPOSES

Prices, Particulars and Catalogues on application

Telephones: 1076-1075 CENTRAL NEWCASTLE.
137 CITY

Telegrams
"CYCLOPS, GATESHEAD."
"CYCLOPS, FEN, LONDON."

JOHN MUSGRAVE

**Globe Iron Works,
BOLTON.**

Tel. Address :
"MUSGRAVE, BOLTON."
Codes : { A1,
A.S.C. 5th Edition
BROOMHALLS.
Telephone No. 590 (3 lines)



For Economy, Reliability, and Compactness in Design, the
"UNAFLOW"
Patent Steam Engine is the ACME OF PERFECTION.

Before deciding your Order send for our Descriptive Pamphlet.

Also
Makers of
**HIGH-
CLASS**

Horizontal and Vertical Steam Engines,

Fitted with "Stegan Patent" Equilibrium Drop Piston Valves, specially adapted for High Pressures and Highly Superheated Steam, with LOW Steam Consumptions, or fitted with Corliss Valves.

Lancashire Boilers, Up to 225 lbs. Pressure.

Superheaters, Millgearing,

The "Musgrave-Zoelly" Steam Turbine,

Condensing Plants,

Pumping Plants, etc.,

Over 500,000 h.p. at work.

VE & SONS LTD.



Makers of SPECIALITIES for PAPER-MAKERS

Vertical Wood Digesters.

Spherical Wood Pulp Digesters.

**Cylindrical and Spherical Revolving Boilers for Rags
and Straw.**

Vertical Boilers for Esparto.

Steam Chests for Anaglypta Paper Machines.

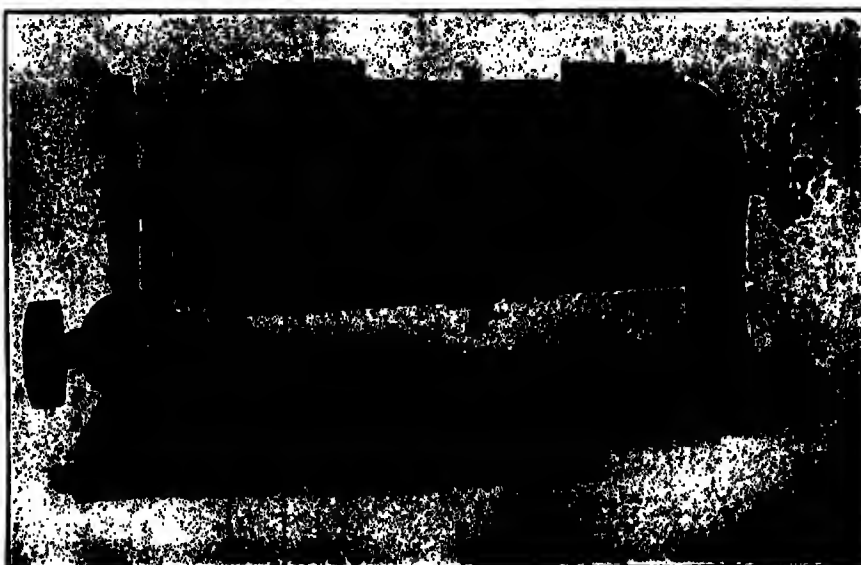
Caustic Pans.

**Cased Pans
and Tanks.**

Lord's Patent Manholes

**For Cylindrical and
Spherical Revolving Boilers.**

**YOUR ENQUIRIES
ARE SOLICITED.**



BELGIAN STATE RAILWAYS & MAIL PACKET SERVICE**THE CONTINENT
VIA DOVER-OSTEND****TWO
DAILY
SERVICES****3 HOURS
SEA PASSAGE****THE BEST ROUTE**To all parts of BELGIUM, COLOGNE, BERLIN, SWITZERLAND, ITALY, etc.
LONDON OFFICES: 47, CANNON STREET, LONDON, E.C.4.**A New Dye.
Brilliant Yellow
for Paper.**

Ask for Sample and Price.

**Sandoz Chemical Co. Ltd.**9, Victoria Chambers,
Little Horton Lane,
BRADFORD, YORKS.24, Tib Lane,
Cross Street,
MANCHESTER.

(Sole Consignees in Great Britain for Sandoz Chemical Works, Basle.)

Agents:

LONDON: Skilbeck Bros., 205, Upper Thames Street, E.C.4.
GLASGOW: Charles Hogg & Co., 9, Royal Exchange Square
LEICESTER: A. W. Brook, 36, Charles Street.**S. C. PHILLIPS & CO.'S
STANDARD PUBLICATIONS
THE PAPER MAKER and
British Paper Trade Journal
with which is incorporated
THE WOOD PULP MAKER.***An Independent and practical Journal for the Paper, Wood Pulp and Allied Engineering Trades.*
Published on the 1st of each month. Price 1s. 6d.; by post, 2s.
Annual Subscription, £1 1s., post free.**THE STATIONERY WORLD
Printing and Allied Trades
and Fancy Goods Review,
with which is incorporated****The Toy World and Games and Sports Record.**
An Independent organ specially devoted to the Stationery, Printing, Toy, Fancy Goods and Allied Trades.
Published on the 1st of each month. Price 1s.; by post, 1s. 3d.
Annual Subscription, 10s. 6d., post free.**THE PAPER BOX & BAG MAKER
including
The Bookbinders' Journal.***The only Journal specially devoted to the Paper Box, Bag Making and Allied Trades.*
Published on the 15th of each month. Price 1s.; by post, 1s. 3d.
Annual Subscription, 10s. 6d., post free.**PHILLIPS' PAPER TRADE
DIRECTORY OF THE WORLD
A mass of information for all engaged in the paper trade. Published
Annually. Subscription, price £1 1s.****Offices: 47, Cannon St., E.C.4.****ANDREWS & CO.,
LIMITED,****BLACKFRIARS HOUSE, NEW BRIDGE ST.****LONDON, E.C.4.****And at Manchester and Glasgow.****Sulphite, Soda, and
Mechanical . . .****WOOD PULP**Telegraphic Address: "ANDRONIUS," Fleet, London.
Telephone Numbers: City 5513 & 5514.

London Office: Wardrobe Chambers, 146a, Queen Victoria St., London E.C.4

TELEPHONE
INTERVIEW
TELEPHONE
CENTRE
5079
CODE: 400
5" EDITION

SULPHATE of ALUMINA, 17/18%.
Commercial and Iron Free.

"THE CHINA CLAY TRADE REVIEW."

*The Official Organ of the
China Clay Industry.*

Published the 15th of each month.

PRICE 6d.

Post Free British Isles, 7/6.
Colonies and Abroad, 10/6.

The only monthly journal devoted to the interests of all engaged in the CHINA CLAY, AND STONE, BALL CLAY, FELSPAR AND ALLIED INDUSTRIES, and circulating amongst Potters, Paper-makers, Chemical Manufacturers, Manufacturing Chemists, Bleachers, and other users.

PUBLISHING OFFICES:

9-10, SOUTHAMPTON BUILDINGS, HOLBORN, W.C.2.

ANILINE DYES

SPECIALITIES FOR PAPERMAKERS.

ACID YELLOW LD
NAPHTHOL YELLOW S
ORANGE GG
" RR
" I
" II
PONCEAU 4GB
" 2G
" R
" 5R
FAST RED B
CRYSTAL SCARLET
INDIGO CARMINE
MAGENTA
METHYL VIOLET
MALACHITE GREEN,
ETC.

**THE LONDON DYE
—MANUFACTURING CO., LTD.,—
86-94, High St., STRATFORD, E.15.**

Telephone: Stratford 854.

Telegrams: "LODYMAKO, BOCHURCH LONDON."

SOCIETY OF CHEMICAL INDUSTRY,

BASLE - - SWITZERLAND.

**Largest Manufacturers
of Aniline Colours
outside Germany.**

EMPLOYING OVER 3,000 PEOPLE.

SPECIALITIES FOR PAPER.

SEND YOUR SAMPLES OF COLOUR FOR MATCHING
TO THEIR AGENTS:

THE

**CLAYTON ANILINE
CO., LTD.,**

CLAYTON - - MANCHESTER.

DON'T WAIT

Now is the time to do BUSINESS WITH SCANDINAVIA, where trade, especially in Paper and Wood-pulp, has received an enormous impetus on account of the Peace, and where everyone is on the lookout for opportunities.

An advertisement in a good Scandinavian Paper and Wood-pulp Journal would help you. IF YOU ARE AN AGENT, an advertisement would make your name more widely known throughout the trade in Scandinavia, or, IF YOU ARE A MANUFACTURER OF MACHINERY OR PAPER-MAKERS' SUPPLIES it would help you to get a good share of the Scandinavian Trade.

THE

"TIDSSKRIFT FOR PAPIRINDUSTRI"

is published in Christiania, Norway, and circulated throughout the trade in Norway, Sweden, Denmark, and Finland, and is also subscribed to by a number of English and American Firms.

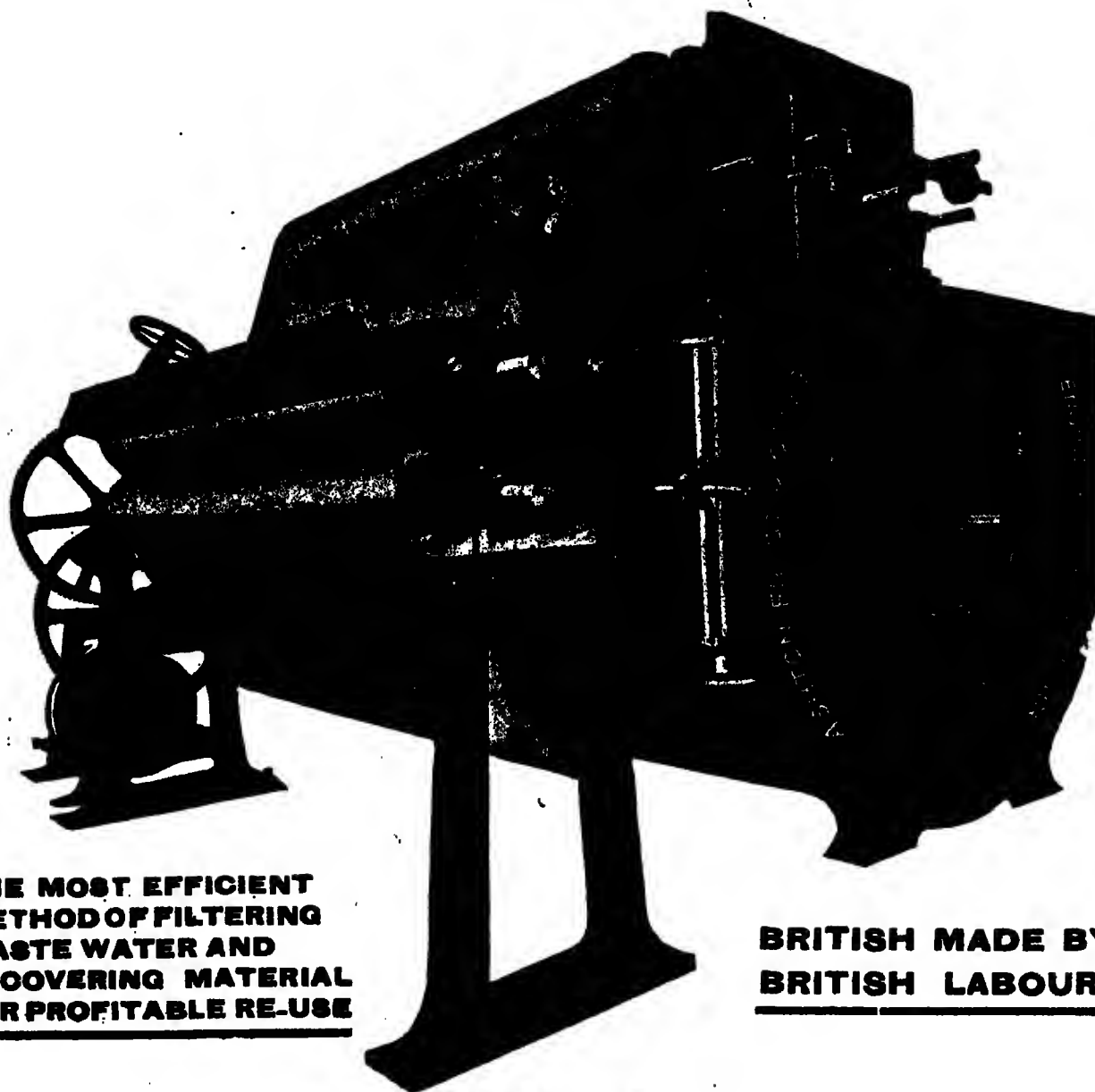
WRITE FOR ADVERTISING RATES AND A SPECIMEN COPY.

Information regarding the Scandinavian Markets furnished gratis

LONDON OFFICE:

**GUMÆLIUS LIMITED,
SCANDINAVIAN ADVERTISING SPECIALISTS,
11, Arundel Street, Strand, London, W.C.2.**

PATENT FÜLLNER FILTER AND SAVE-ALL



**THE MOST EFFICIENT
METHOD OF FILTERING
WASTE WATER AND
RECOVERING MATERIAL
FOR PROFITABLE RE-USE**

**BRITISH MADE BY
BRITISH LABOUR.**

DELIVERY FROM STOCK.

**ASHTON FROST AND Coy., Ltd.,
ENGINEERS,
BLACKBURN - - ENGLAND.**

W. RALSTON & CO.

LTD.,

**CLOUGH ROAD WORKS,
MOSTON LANE, MANCHESTER.**

Telegrams "RALSTONITE, MANCHESTER." Phone: 551 CHEETHAM HILL.

MANUFACTURERS OF**Kraft Union Waterproof
Patent Packing,
Waxed Tissues,
Oil Papers,
Pitch Papers,
Etc. Etc.***IN SHEETS OR ROLLS IN ALL STANDARD SIZES,
also in NARROW WIDTH REELS AND CIRCLES***SAMPLES AND PRICES ON APPLICATION****London Office:
30, BUDGE ROW, E.C.4.
(Phone: CITY 8838).****COMPRESSED AIR
IN THE PAPER INDUSTRY.**

For conveying liquids from one floor
to another, or for agitating or mixing
fluids, etc.

For producing a current of air to keep
calender rolls cool.

And for many other processes in the
paper trade in which compressed air
can be employed.

IS MOST EASILY & ECONOMICALLY OBTAINED

by the installation of a

**WESTINGHOUSE
AIR COMPRESSOR.***Compressors manufactured in London by—***THE WESTINGHOUSE BRAKE CO., LTD.
82, YORK ROAD, KING'S CROSS, LONDON, N.1.**Telegrams—Kraftship, Manchester.
Telephone—City 2458.**WESTWELL, Ltd.**Paper Importers
and Exporters,**Lloyds Bank Bldgs.,
King Street,
Manchester.****Wrappings****Krafts,
Sulphites,
Greaseproofs,
in Sheets or Reels.****LONDON OFFICE:—****97, Queen Victoria Street, E.C.4:**Telegrams—Papimpex, Cent, London.
Telephone—Central 8007Telephone - - City 6115
Telegrams - - Anglonorse, Cent, London**ANGLO-NORSE
PAPER AGENCIES LTD.****VULCAN HOUSE, 56 LUDGATE HILL
LONDON - - - - - E.C.4****Manager: F. A. MARSDEN****Sole Agents in the United Kingdom for
RENA KARTONFABRIK,
A/S RENA, NORWAY.
WOODPULP BOARDS FOLDING BOARDS,
DUPLEX AND TRIPLEX BOARDS.****Sole Agents (except Scotland) for
JARLSBERG PAPER MILLS,
CHRISTIANIA.****M/F & S/C PRINTINGS. WRITINGS.
BANKS. GLAZED AND UNGLAZED.
BONDS. IMITATION PARCHMENTS.****Sole Agents in England for
STANDARD PAPIRINDUSTRI,
A/S GULSKOGEN, NORWAY.
TOILET ROLLS.**

**NOW
ONLY A FEW
LEFT**

**PHILLIPS'
Paper Trade Directory
OF THE WORLD**

**FOR
1920.**

**Published
at**

21/-

S. C. PHILLIPS & CO., 47, Cannon Street, London, E.C.

ORDER AT ONCE TO PREVENT DISAPPOINTMENT!

PRICE & PIERCE, Ltd., LONDON.

WOOD AND PULP.

*Branches:—*Liverpool, Manchester, Glasgow and New York.

SATIN WHITE

BLANC FIXE

"GLEUTON"—The Perfect Sizing Agent for Paper Coating and Printing Colours

SOLUBLE STARCHES and GUMS.

CHEMICALS.

PIGMENT and LAKE COLOURS for **COATING** and Printing Purposes.

BRONZE and POLISHING BLUES.

LAKE and ANILINE BLACKS.

PREPARED ROSIN SIZE.

SOLUBLE and COLOUR OILS.

ANTIFROTHING SIZE. SOAPS.

BISULPHITE of SODA.

HYPOSULPHITE of SODA.

ANTIOHLOR, Etc.

ESTABLISHED 1840.

RILEY'S CHEMICALS & COLOURS, LTD.

CHEMICAL & COLOUR WORKS,
CLAYTON-LE-MOORS,
LANCASHIRE.

Telegraphic Address -
"PROGRESSIVE, AGRINGTON."

Telephone—
No. 88 GREAT HAYWOOD.

From Barrel to Beater



AMBER SIZE

Mr. R. W. SINDALL, F.C.S., says:

"This is about the best prepared Size I have seen."

W/E guarantee a saving in any case—
whether you are making your own Size,
OR

Whether you are making your size by any patent
apparatus, OR

Whether you are buying a prepared Size.

We send our Expert to your Mill to prove this. He will
demonstrate the advantages, and show you how it is used.

We supply sufficient **AMBER SIZE** for the trial **FREE OF CHARGE**. We
take all responsibility for the Paper Sized with **AMBER SIZE** by our Expert

Sole
Agents: **FOX, STOCKELL & CO.,**
61, ST. MARY AXE, LONDON, E.C.

ADOPTED BY LEADING MILLS because of the saving effected

CASEIN

FOR PAPER COATING.

NIEUWHOF, SURIE & CO., LTD.,

Head Office:
5, Lloyd's Avenue,
London, E.C. 3.

Telephones:
AVENUE 34 & 35.

Works & Warehouses:

Aldgate Avenue,
London, E.

Telegrams:
"SUBICODON, CENT. LONDON."

Keep Your Wires Clean !!

Our **ROTARY CLEANING ATTACHMENT** for Paper Machine Wires is simple, efficient, and cleans wire whilst machine is running. Many in use, Write for particulars.

BRUSHES

for Art Tinsell and
Coated Paper Makers

COATING AND STAINING BRUSHES
CIRCULAR-FEED BRUSHES
PAPER-DAMPING BRUSHES
BRUSHING & POLISHING CYLINDERS

John Dawson & Son

Eldon Brush Works, St. Philip St., LEECS

THE Indentors' Guide

Pays Advertisers.

IF you wish to introduce your new products in

INDIA

or to increase the sale of your Old Products
Advertise in "THE INDENTORS' GUIDE,"
IT BRINGS RESULTS.

Its Special Feature is that Advertisers' Goods are
accepted in Contra, placed on the Market to
Advantage and Repeat Orders are regularly sent.

For Sample Copy and Rates address—

S. P. MASON, Bangalore, INDIA.

London Agents—STIRLING, MASON & CO., 114 Fenchurch Street, E.C.

L'Industria Della Carta:

via Principe Umberto, 24, MILAN

A Practical Journal for the Manufacture
of Paper and the Graphic Arts. ::

THE ONLY TECHNICAL JOURNAL THAT IS PUBLISHED IN ITALY.

It is recommended as being greatly appreciated
and having a wide circulation :: ::

The Editor-Proprietor, Mr. ENRICO TONIOLO, Milan, devotes him-
self specially to the sale of **MACHINES & MATERIALS**
connected with the manufacture of Paper and the Graphic Arts.

Catalogues and Offers Gladly Received.

GEO. F. HARDY,

Mem. Can. Soc. C. E., M. Am. Soc. M. E., Mem. Eng. Inst. Can.

PAPER MILL ARCHITECT

AND

HYDRAULIC ENGINEER.

REVALUATIONS. REPORTS.
WATER POWER DEVELOPMENTS.

309, Broadway, New York,
U.S.A.

HARDY S. FERGUSON,

CONSULTING ENGINEER,

280, FIFTH AVENUE, NEW YORK CITY.

MEMBER Am. SOC. M. E.

MEMBER Am. SOC. C. E.

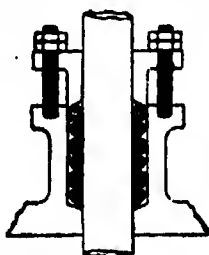
MEMBER Eng. INST. CA.

Paper, Pulp and Fibre Mills
including Buildings and Com-
plete Mechanical Equipment.

Water Power Development.

Dams, Storage Reservoirs and
Other Hydraulic Structures.

EXAMINATIONS
REPORTS
ESTIMATES OF COST
DESIGNS
SPECIFICATIONS
VALUATIONS



Patent Pactite Pump
Packing.

Patent Metallic Face
Steam and Hydraulic
Packing and Jointing
Materials.

SOLE MAKERS:

S. REDFERN & CO.,

Swan Lane, New Brown Street, MANCHESTER.

Telephone No. 1
114 CITY.

Telegraphic Address:
"METALLINE."

BOLETIN DE LA INDUSTRIA Y COMERCIO DEL PAPEL

A fortnightly Spanish Review of Paper-making and Trade generally.

The best Spanish Paper Review (prodigiously illustrated), is published
on the 1st and 15th of every month, in 194 by 264 cm. size, with
more than 60 pages of letterpress on superfine glazed art paper.

Subscription price 15 fr. per year.

Terms for Advertising can be obtained upon application to our
representatives for the United Kingdom, viz.:-

S. C. PHILLIPS & CO.,

Publishers of "THE PAPER-MAKER."

47 CANNON STREET, LONDON, E.C.

JAMES SPICER & SONS

LIMITED.

CHAIRMAN:	
THE RT. HON. SIR ALBERT SPICER, BART.	
DEPUTY CHAIRMAN:	
SIR HOWARD H. SPICER, K.B.E.	
CHARLES EVAN SPICER.	J. LEONARD SPICER.
A. DYKES SPICER.	DOUGLAS SPICER.

PAPER

OF EVERY DESCRIPTION.

Head Offices and Warehouses :
50, UPPER THAMES STREET AND ABBEY WHARF,
LONDON, E.C.4.

Telephone : CITY 6486.

Established 1858.

JEBB BROTHERS, Ltd.,

**IMPORTERS and
EXPORTERS.**

ADDITIONAL WAREHOUSES: BUXTON ST., CRAWHALL RD., CITY RD.

Head Office :

**32, Howard Street,
Newcastle-on-Tyne**Telegrams :
Jebb, Newcastle-on-Tyne.
Jebb, Dewsbury.
Jebb, North Shields.Telephone Nos.
3336 and 3336
CENTRAL, NEWCASTLE.
348 NORTH SHIELDS.
33 DEWSBURYCODES :
A.B.C. 4th, 5th, and 6th EDITIONS
and WASTE MERCHANTS' Code.

HOWARD ST. WAREHOUSE.

Warehouses :
HOWARD STREET, CITY ROAD.
AND CRAWHALL ROAD.YORKSHIRE
WOOLLEN RAG DEPT.
Carr Top Mills, Batley Carr,
Batley, Yorks**DEPARTMENTS.****WOOLLENS.**
New and Old Mungo and Shoddy
Rags, Cloth, Stockings, Merinos,
Serges, &c.**WASTE RUBBER, ETC.**
All Grades of Waste Rubber,
Curled Hair, Hair Sewing, Second-
Hand Bags, Etc., Etc.**METALS.**
Scrap Brass, Copper, Lead, Zinc,
Zinc and Lead Ashes, Scrap Iron
and Metals.**PAPER-MAKING MATERIALS.**
New and Old Linen and Cotton
Rags, Bagging, Ropes, Twines,
Canvas and Waste Papers.**NO CONNECTION WITH ANY OTHER FIRM.**

Having extensive warehouse accommodation, equipped with all modern requirements for dealing expeditiously with large quantities of goods, at Newcastle-on-Tyne (Station address, New Bridge Street), and Batley Carr, Yorkshire (Station address, Dewsbury), customers may rely upon their consignments, whether large or small, receiving prompt attention.

Dealers in Lancashire, Cheshire, and the Midland and Southern Counties, should consign their Woollen Rags of all descriptions to our Yorkshire Mungo and Shoddy Rag Department, Carr Top Mills, Batley Carr, Batley.

THIRY & CO., Belgium.

PAPER MAKERS' ENGINEERS.

Paper Machines

for WRITINGS, FINE PRINTINGS,
M.G. and NEWS (WIDE HIGH SPEED).BEATERS CUTTERS STRAINERS GRANITE PRESS ROLLS PULPERS REELERS
CALENDERS LAVA BEATER ROLLS AND BED PLATES BOARD MAKING MACHINERY

SOLE AGENTS (England, Ireland and Wales):

WHITTAKER & CO.,

ENGINEERS FOR PAPER MAKERS,
CASTLE CHAMBERS, MARKET PLACE,
BURY, LANCS. Telegrams : "MECHANICAL, BURY."

Phone : 698 BURY.

Fullerton

MANUFACTURERS OF
EVAPORATORS
(FOSTER'S PATENT)
FOR
CAUSTIC SODA RECOVERY



Triple Effect and Finisher fitted with Multiple Feed Heaters

These Evaporators being cast in our own Foundry we are in a position to give good delivery.

Illustrated Catalogue on application

Fullerton, Hodgart & Barclay, Ltd.

PAISLEY

Telegrams: "Vulcan, Paisley."
Codes: A.B.C. 5th Edition;
Engineering: Western Union;
Marconi Inter.

ESTABLISHED 1836.

Telephones: 2163-4 Paisley.
Private Branch Exchange.

WRITE OR 'PHONE CENTRAL 426 & 427.

CABLES AND TELGRAMS: "FETHPAPMIL, FLEET, LONDON."

HENRY FEATHERSTONE**13, WHITEFRIARS STREET, FLEET STREET, LONDON, E.C.4****Paper Agent and Merchant.***Specialities:* NEWS & SUPER-CALENDERED PAPERS in REELS or REAMS**EDWARD KEMPSTER & SONS, Ltd.,**
GEORGE STREET, BURY, LANCs.**Engineers and
Brassfounders.****Specialities:**
**PHOSPHOR BRONZE and
GUN METAL CASTINGS.****PUMPS, VALVES, AND PAPER MACHINE ACCESSORIES.**

Telegrams: "Kempster, Bury"

Telephone: 95 Bury.

"BON ACCORD"
CENTRIFUGAL PUMPS

Any Capacity and Head, and for all purposes.

Driven by STEAM ENGINES (open and enclosed), ELECTRIC MOTORS, OIL ENGINES, BELTS, &c.

HIGH-SPEED ENGINES (open and enclosed types)
FOR DRIVING DYNAMOS, FANS, &c.

The "BON ACCORD" PUMP is specially adapted for Pumping Paper Pulp, Thick Viscous Liquids, &c.

DRYSDALE & Co., Ltd., YOKER, GLASGOW.

Telegrams: "Bonaccord, Glasgow."

Write for Catalogue.

MONTHLY EDITION IN ENGLISH.
WEEKLY EDITION IN SWEDISH.SUBSCRIPTION: £1 PER ANNUM.
POST FREE.**The "Mercator,"****A Journal devoted to Finland's Industry and Trade, is
the Best Advertising Medium in Finland, with its
large Home and Foreign Circulation.****"MERCATOR" OFFICE, NYLANDSGATAN 3-5, HELSINGFORS.**

CHINA CLAY (KAOLIN)

**For Paper-Making, Coating
and Chemical Manufacture.**

THE WEST CARCLAZE CHINA CLAY CO., LTD.,

Telegrams—
"PORCELAIN,
ST. AUSTELL."

**China Clay Mine Proprietors,
ST. AUSTELL, ENGLAND.**

BROTHERHOOD FORCE-LUBRICATED **STEAM ENGINES & TURBINES** AND **AIR COMPRESSORS**

Provide economical power for
mill driving and water raising,
together with drying and heating
by EXHAUST STEAM.

**PETER
BROTHERHOOD**
LIMITED,
PETERBOROUGH and
CENTRAL HOUSE, KINGSWAY,
LONDON, W.C.2.



BROTHERHOOD COMPOUND ENGINE & 200 K.W. DYNAMO.

BENTLEY

Paper Make

BUR

Telegraphic Address : "CALENDER, BURY."

Telephone No. : 340 BURY.

Codes Used : A I, A B C (5th) and Western Union.

SPECIALITIES.

Pope Patent Drum Reel for
High Speed Paper Machines.

Changes Reels at 900 ft. per minute.

Temperley & Wild's Breaking Engine.

Marshall's Perfecting Engine.

Nuttall's Rag Cutters.

Reinecke & Jasper's R

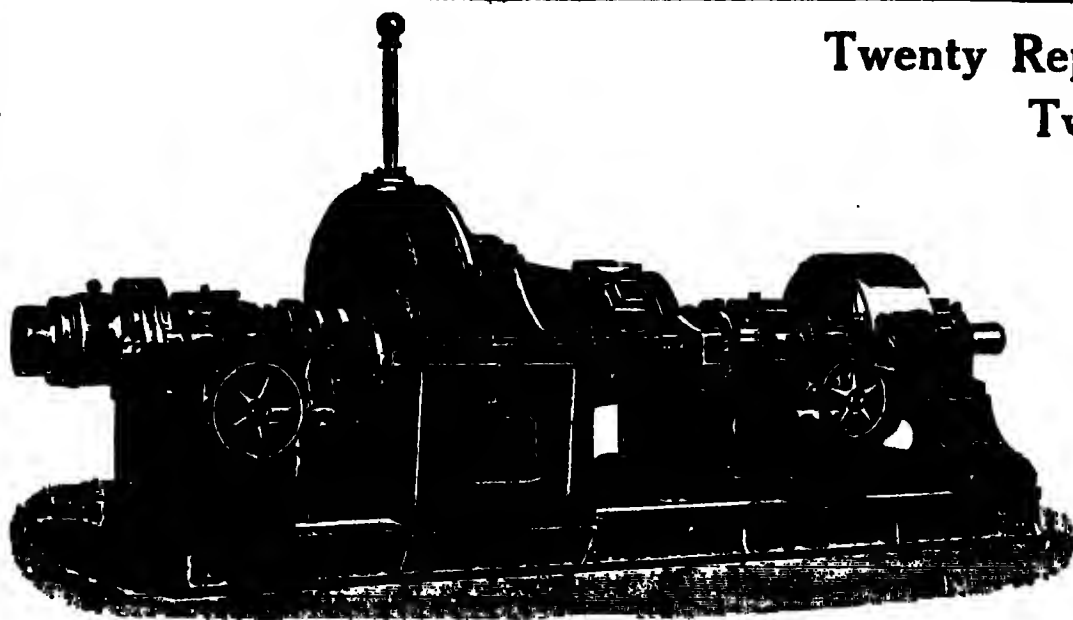
Coburn-Taylor 1

Millspaugh Suction R

Smiths' Vibrating

Seddon's Shake 1

Barnes's Spray 1



Twenty Repeat Orde
Twelve Mo

"MAF
REI
ENC

& JACKSON

rs' Engineers,

Y **NEAR**
MANCHESTER.

evolving Strainer.
Bag Cutter.
and Spray Pipe.
Frame.
Regulator.
Damper.

in the last
this.

"SHALL"
TINING
INE.

Helin's Patented Beating Material for Beater Rolls and Bedplates.

"Marshall" Refiners and "Jordan" Engines filled with this Material are giving excellent results.

Especially successful in the beating of Kraft Papers, and Strong Papers from Sulphite, &c.

Is replacing Stone Beater Rolls in the production of Imitation Parchment and similar papers.

The Material can be fixed in existing Beater Rolls.

Send size of Roll and Bedplate, we will give price and all particulars.

John Wild & Sons, Ltd.,

SPECIALITIES:

SUPER CALENDERED PAPERS
DRAWING PAPERS - - -
FERRO-PRUSSIAN CARTRIDGE
Glazed and Unglazed IMITATION
PARCHMENT - - - - -
ENVELOPE PAPERS - - -
BEST STAINERS - - - - -
MANILLA CARTRIDGES - -
Glazed White WAXING PAPERS
BUTTER PAPERS - - - - -
TEA PAPERS, MIDDLES - -
TAG OR LABEL PAPERS - -
CHROMO AND ENAMELLING
PAPERS
VARNISHING PAPERS - - -
PRINTINGS—White and Toned -
M.G. BISCUIT CAPS - - -
BOOK COVERS - - - - -
BEST GLAZED CASINGS - -

PAPER MAKERS,

*Broad Dumers
Paper Works,*

RADCLIFFE,

Near MANCHESTER.

Telegrams: "WILD, RADCLIFFE."
Telephone: 40, WHITEFIELD.

London Agent: **Mr. HENRY BURGESS,**
15, Dowgate Hill, E.C.
MILL No. 882.

WIFSTAVARFS AKTIEBOLAG,

Telegrams:
"WIFSTA"
WIFSTAVARF.

WIFSTAVARF (Sundsvall District) Sweden.

FOUNDED 1799

SALES OFFICES: Kungsträdgårdsgatan, 10, STOCKHOLM.

Telegrams: "WIFSTA," Stockholm.

Manufacturers & Exporters of Chemical Wood Pulp.

STRONG SULPHITE
EASY BLEACHING Do.
EASY BLEACHING SODA
and STRONG SODA

W W K & W W
W W L
W W L
W W K

Brands

Annual Production
about 55,000 tons.

Brands

" 22,000 "

AGENTS:

UNITED KINGDOM: PALMER, FLYGT & Co., 110, Cannon Street.
London, E.C.; and

ROB. ERIKSON & Co., Ltd., 73a, Queen Victoria St., London E.C.

FRANCE, SPAIN & PORTUGAL: LORENTZEN & GUTZEIT, 12, Rue
Boissy D'Anglas, Paris.

HOLLAND: OTTO J. FABER, Prins Hendrikkade, 20-21, Amsterdam.

BELG.UM: GROSS & IRGENS, 20, Courte Rue des Claires, Anvers.

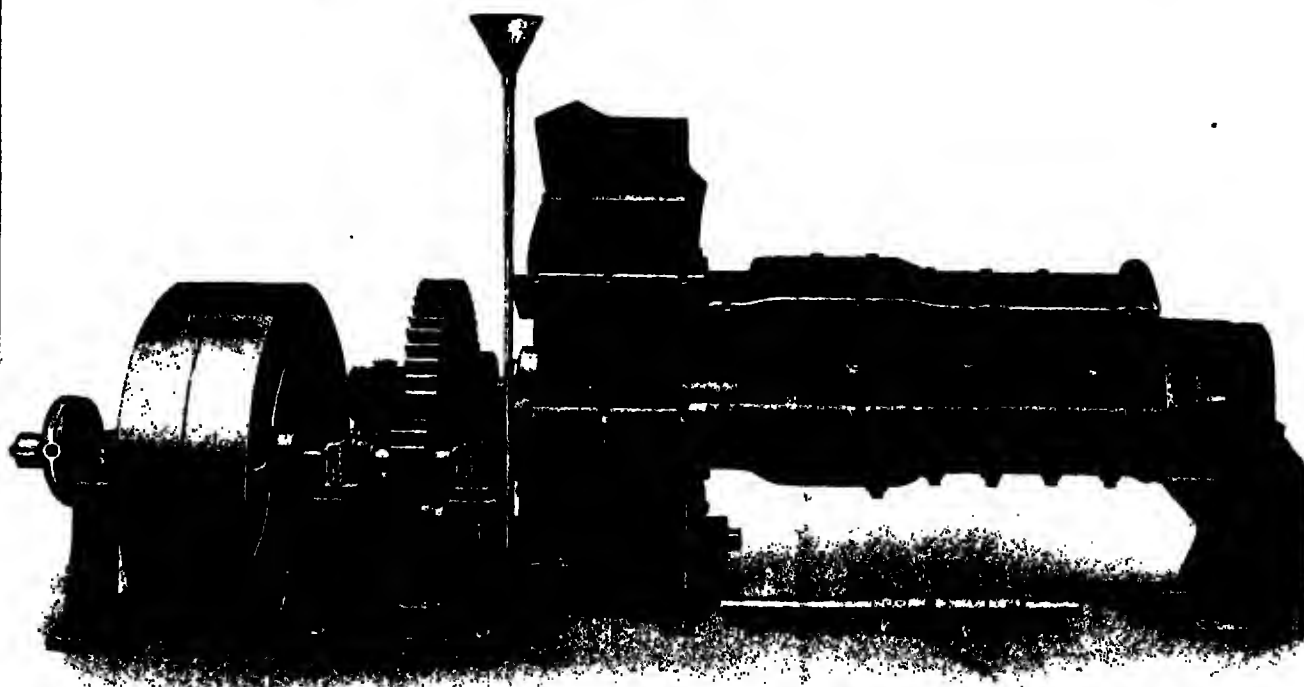
The Watford Engineering Works,

Limited.

Established 1827 by Mr. GEO. TIDCOMBE, Senr.,

**PAPER MILL ENGINEERS & MILLWRIGHTS,
LOWER HIGH STREET, WATFORD.**

Telegrams: "Mechanical Watford" Code: 5th Edition A B C. Telephone: 35 Watford.



THE IMPROVED "Watford" Pulper.

**STRAINERS, STRAINER PLATES, DRUMS AND
CYLINDER MOULDS OF EVERY DESCRIPTION.**

**SPRAY DAMPERS, SLITTERS, FROTH KILLERS,
STUFF CHEST MIXERS, PULP SHREDDERS, Etc.**

"Leibers Standard, Western Union
and A.B.C. 5th Edition Codes."



PARSONS & WHITTEMORE

(INCORPORATED)

Are Buyers and Sellers of

Sulphite Pulp & all Grades of Paper & Paper Mills Supplies.

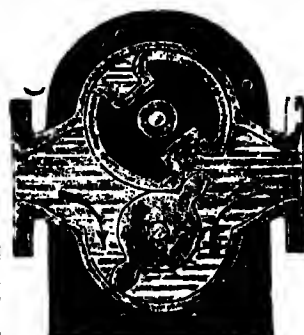
Write them

Head Office: 299, BROADWAY, NEW YORK, U.S.A.

London Office: 27, BUCKINGHAM GATE, S.W.1.

Also At 30, MARKET STREET, SYDNEY, NEW SOUTH WALES; MELBOURNE, VICTORIA, AUSTRALIA.
CASILLA 2707, SANTIAGO de CHILE, CHILE, S.A. CALLE ALBA 307, BUENOS AIRES, ARGENTINA.
32, ST. GEORGE STREET, CAPE TOWN, SOUTH AFRICA. P.O. BOX 1307, HAVANA, CUBA. And Elsewhere

Cable Address: "PARWHIT."



THE 'Drum' Pump

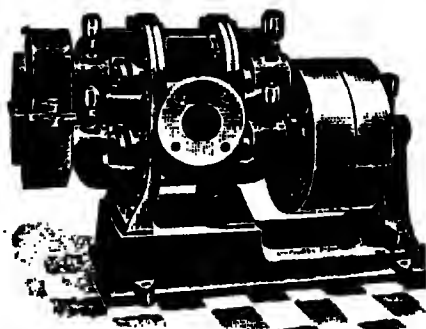
(JOHNSON'S PATENTS).

**Positive Action. High Efficiency.
No Valves.**

Fitted to the Suction Boxes of Paper Machines in
many of the leading Mills.

Telegrams: "Drum, Bradford."

Telephone: No. 2358.



Write for Catalogue
No. 81 to—

DRUM ENGINEERING CO., 28, HUMBOLDT STREET, BRADFORD.

Fred^k. G. Williams, 119, Chapel Street, SALFORD,
MANCHESTER.

Telegrams: "SULFUR."
Telephone: 4401 CITY.

ANILINE COLOURS & CHEMICALS

Stocks Now in Manchester

Malachite Green

Magenta Crystals

New Magenta

Metanil Yellow

Brilliant Croceine

Methyl Violet

ETC.

ETC.

ETC.

Griesheim-Elektron products for Scotland, Lancashire and the North, excluding Yorkshire.



Paper Coating Machines

**Carbon Paper Coating Machines
Gumming and Gluing Machines**

This machine will coat one or both sides of the paper with the exact amount of wax desired; with finest high gloss finish on self-sealing bread wrappers, also on both heavy or light papers; it can absorb the wax entirely into the paper or retain most on the outside; also high grade dry waxed paper, and best grades of waterproof and oiled papers up to 72 inches wide, at a fast rate of speed.

Please submit your problems to our Engineering Department for solution. This service rendered cheerfully and gratuitously implying no obligation whatever.

TYPE 40 G. Semi and Full Wax Coating Machine.
Patented in United States. Also in Great Britain, Canada and other Countries.

MAYER COATING MACHINES CO., Rochester, N.Y., U.S.A.

Telephone Nos.—85 ECCLES.
Telegrams—"BLUE," PATRICROFT.

ESTABLISHED 1840.

Hazlewood and Sons, Ltd.,

NELSON WORKS. PATRICROFT, near Manchester.

Enquiries Solicited for Home and Export for

ANILINE COLOURS

Prussian Blues (Paste and Powder)
Indigo Blues
Refined Indigo
Indigo Substitute
Indigo Extract
Ultramarines
Rosin

Smalts Blue
Carbon Black
Bark Extract
Logwood Extract
Hematine Paste and Crystals
Turkey Red Oil
Soaps

ROSIN SIZE and all Chemicals for the
Paper and Allied Trades.



THE "ROBEY" PATENT UNIFLOW ENGINE.



The advantage of the ROBEY PATENT UNIFLOW ENGINE is that, in comparison with engines of the ordinary type, even of the highest class, the clearance spaces in the cylinder are not reduced in temperature, because the steam is compelled to flow in one direction only.

This means considerably increased efficiency, and the economy obtained in a Single Cylinder Engine of the Uniflow type is equal to that of a high-class Triple Expansion Engine.

There are other points in the design which are of interest, and we should like the opportunity of sending you a copy of our catalogue.

ROBEY & CO., Ltd., Globe Works, LINCOLN

*Approach***G. E. Davies & Company,**

5, CROSS STREET, MANCHESTER.

for PAPER AND PAPERMAKING MATERIALS.

Reg. "NATSTAN." Trade Mark.

SATISFACTION GUARANTEED.**K. H. KABBUR & CO.,** 30, Brown Street, MANCHESTER,

Telephone:—CITY 1231.

AND

Telegram:—"KAMALA."

LONDON, PARIS, BARCELONA, MILAN, ALEXANDRIA, BOMBAY, CALCUTTA, DELHI, MADRAS, NEW YORK.

For PULP, COATING, or TINTING.

ALL COLOURS & CHEMICALS FOR THE PAPER TRADE**AYERS LIMITED**LACHUTE MILLS,
P.Q., — CANADA.**For Home or Exportation.**Oldest and largest manufacturers
of Paper and Pulp Machine Felt
in Canada.**FELTS for**
PULP and PAPER MAKERSOUR SPECIALITY:**"KEK" Patent Grinding Mill**

For Chemicals, Colours, Dyes, Fibres, Minerals, &c.

Specialties: CHEMICAL PLANT, PANS, TANKS,
VACUUM DRYERS, &c.

— THE, —

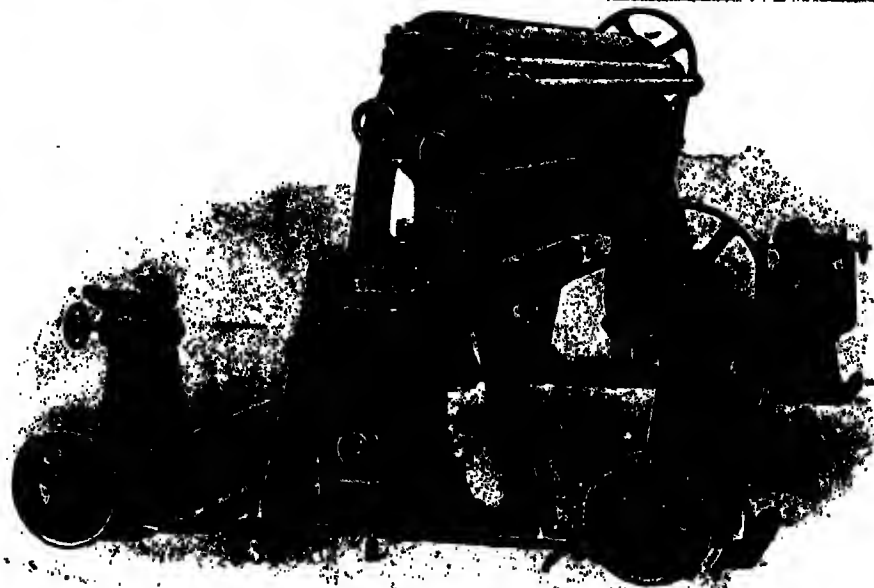
Chemical Engineering Co. (Manchester), Ltd.,
49, Deansgate, MANCHESTER.**SPANISH UNION OF PAPER MILLS** (LA PAPELERA ESPAÑOLA)**DAILY OUTPUT OF PAPER—125,000 KILOS.**PAPER MILLS: At Aranguren, Arrigorriaga (Viscaya);
Renteria (two); Tolosa (two); Illarramendi, Olarrain
(Guipúzcoa); Villava, Oroz-Betelú (Navarra); Villa-
nueva del Gállego (Saragossa); Valladolid, Palazuelos
(Segovia); Fuensanta (Albacete), and Puente de Don
Juan (Cuenca).**PULP MILLS AT**Aranguren, Renteria (two); Oroz, Villava, Olarrain,
Illarramendi, Segovia and Villagordo del Jucar.Manufacturers of every
description of**PAPER**FOR EVERY COUNTRY
THROUGHOUT THE WORLD.

All enquiries and correspondence to—

BURNELL HARDY & CO
106 Queen Victoria St., London, E.C.
SOLE AGENTS.

THE WEST END ENGINE WORKS CO.

Paper-Makers' Engineers



BRUSH DAMPING MACHINE.

Telephone No. :
1473 CENTRAL.

Telegrams :
"West End,
Edinburgh."

EDINBURGH

CROOKES, ROBERTS & CO.,

MAKERS OF GOEBEL CUTTERS

TOPS AND BOTTOMS.
Prices on application.

ARGUS
WORKS SHEFFIELD.

Telegrams:
"ARGUS, SHEFFIELD."



Manufacturers of

RAG ENGINE
ROLL BARS

and

BED PLATES

in Crookes' Special Metal Composition.
Best Refined Crucible Cast and Selected
Steels.

TRAM AXLES AND FORGINGS
A SPECIALITY.

CIRCULAR KNIVES.

RAG AND ROPE CHOPPER KNIVES

Doctor Blades, Guillotine and
all other Machine Knives,
and every description of
Tools used by Paper-Makers.

ARGUS Special High Grade Crucible
Steel for all Purposes.

ARGUS HIGH SPEED (all grades

ELBOW PLATE



CIRCULAR
CUTTERS.



ROLL BAR.



STRAIGHT PLATE

CIRCULAR
CUTTERS



CHARLES WAL

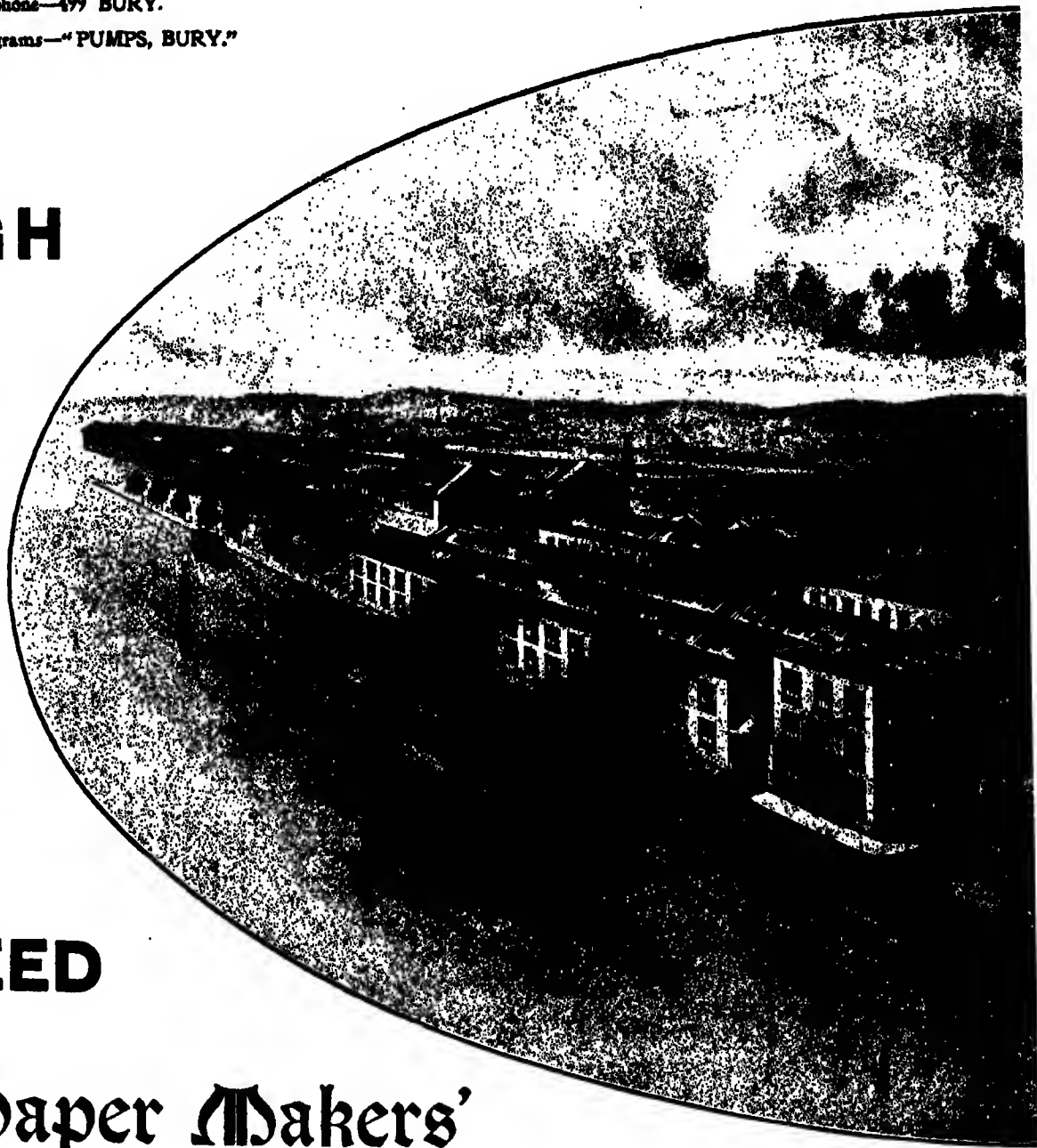
Telephone—499 BURY.

Telegrams—"PUMPS, BURY."

HIGH



SPEED



Paper Makers'
ATLAS WORKS,

B

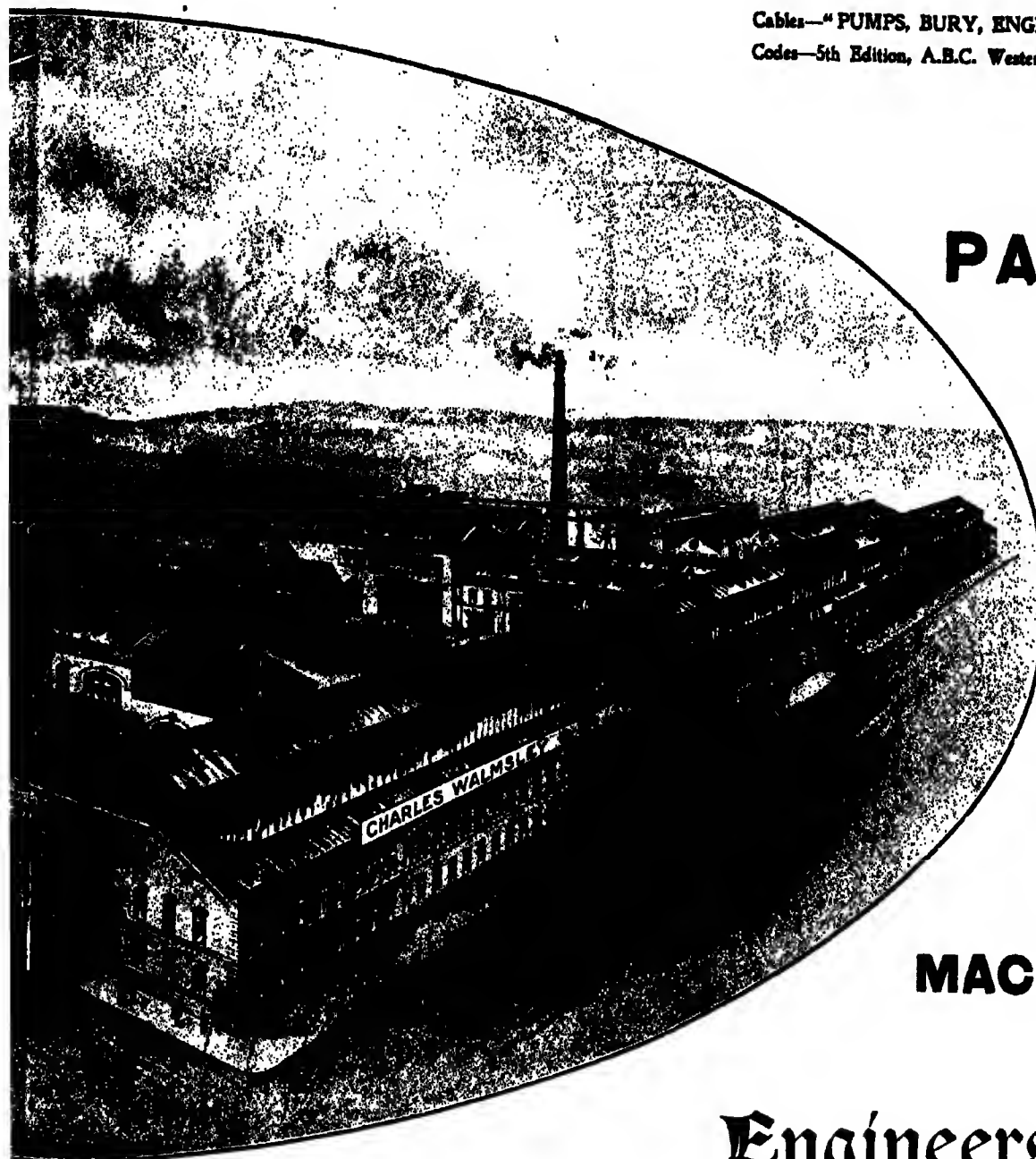
MSLEY & Co. LTD.

Cables—"PUMPS, BURY, ENGLAND."
Codes—5th Edition, A.B.C. Western Union.

PAPER



MACHINES



JRY,

**Engineers,
LANCASHIRE.**

WHITLEY PARTNERS,

Engineers and Brass Founders,
RAILWAY WORKS, LEEDS.

Calender Bowls and Paper Machine Rollers In Brass.

Paper-Makers should specify for

**Whitley's
Spun Brass Shells,**

Which are Unequalled in Density—being Non Porous and Absolutely Free from Blow-Holes; are Economical in Price, and add practically nothing extra to the cost of Paper Machines.



Patent Basalt Lava Stone Beater Rolls and Bedplates.

Plain Segments Giving
Double Former Working
Surface.

Renewable Segments.
Quicker Circulation.



One important user states :
"One Roll of your New
Construction outlasts five
Grooved Rolls."

R. J. MARX

(Late J. MARX & CO.).

Paper Makers' Engineers,

133/139, FINSBURY PAVEMENT, LONDON, E.C.2.

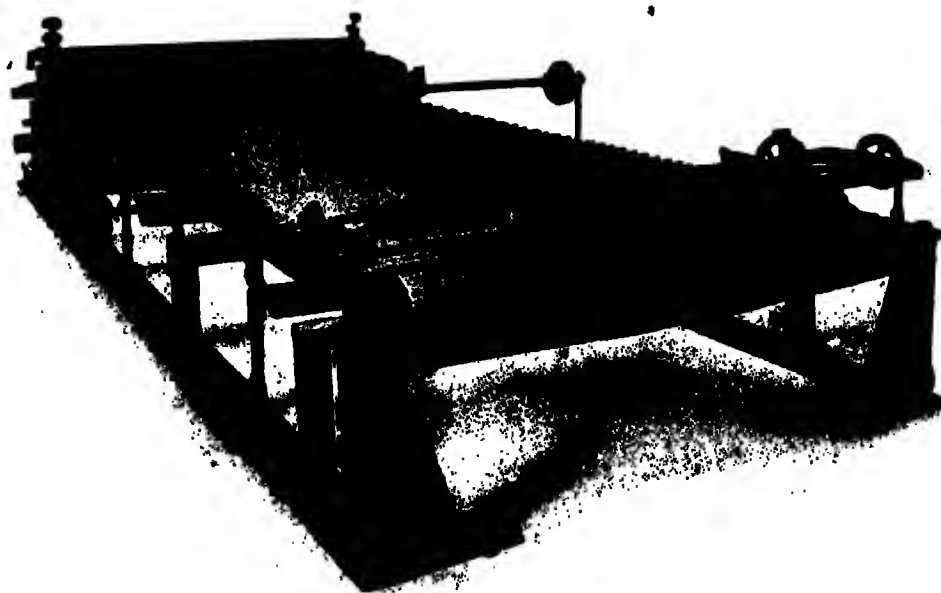


Engineering Works :
CORONATION WHARF,
TOWNMEAD ROAD,
FULHAM, LONDON, S.W.6.

Telephone : PUTNEY 2475.
(2 LINES WITH PRIVATE EXCHANGE.)

Telegrams :
MASSEY, WALGREEN,
LONDON.

PAPER MACHINES



1920 CONSTRUCTION

WE SPECIALISE IN PAPER & BOX BOARD MACHINES

WOOD PULP SUBSTITUTE

Bleached or Unbleached
COTTON WASTE
free from foreign matter

GUARANTEED 95% PURE CELLULOSE

Send your enquiries to
us, when our services
will be at your command.

HOLT BROTHERS

Wharf Mill
BURY BRIDGE

BURY, LANCASHIRE

Telephone—332 BURY.

Telegrams—"BALES, BURY."

The Annual Number of
THE PAPER-MAKER

FOR 1919—20

is now on Sale.

PRICE 3/-

Publishers:

S. C. PHILLIPS & CO., 47, Cannon St., E.C.4.

ROPE DRIVING

For **EFFICIENCY** and **DURABILITY** USE
KENYON'S



Illustrated
Lecture on

"The Transmission of Power by Ropes"

Post Free, on application to—

WM. KENYON & SONS, Ltd.

CHAPEL FIELD WORKS,
DUKINFIELD, ENG.

Telephone Nos.: 494 Ashton; 6818 London Wall.

Telegrams: "Kenyon, Dukinfield"; "Kenyonsers, London."

LONDON OFFICE: 95 to 97, FINSBURY PAVEMENT.

BRANCH WORKS: ARMENTIÈRES, FRANCE.

(1)

The Oldest Trade Protection Office in the United Kingdom.

ESTABLISHED 1776.

PERRY'S

TRADE PROTECTION OFFICES

(W. R. PERRY, LTD.),

26 & 27 BUSH LANE, CANNON STREET, LONDON.

WITH AGENTS AND CORRESPONDENTS THROUGHOUT THE WORLD.

Inquiries made as to the position and standing of Traders and others
in United Kingdom and Abroad.

PERRY'S GAZETTE AND LISTS OF CREDITORS

Are published weekly, and are invaluable to every one in business.

Names obtained of suitable Agents and Reliable Business Firms.

DEBTS RECOVERED AND PAID OVER PROMPTLY.

PENMAN & CO. LTD.

BOILER MAKERS.

Lancashire & other Types.

PAPER MILL REQUIREMENTS A SPECIALITY.

HIGH-PRESSURE ESPARTO & REVOLVING RAG BOILERS.

CALEDONIAN
IRON WORKS,

GLASGOW.

Telegrams:-
"PENMAN,
GLASGOW."

A.B.C. 5TH EDITION
& ENGINEERING
TELEGRAPH
CODES.



London Office:-
SUFFOLK HOUSE,
LAURENCE POUNTNEY HILL, E.C.

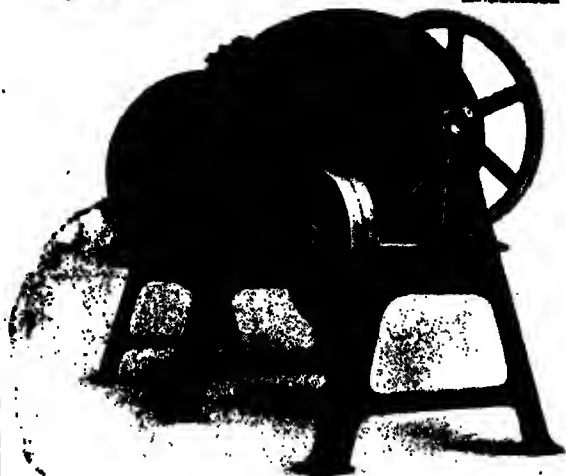
LORD'S BARNBROOK

(Late J. E. & R. LORD).

**Barnbrook Boiler Works, BURY,
Near MANCHESTER.**

Telephone No. 228.

Established 1843.



REVOLVING GLOBICAL BOILER for Rags and Gun Cotton.

*Specialities :***CYLINDRICAL and SPHERICAL REVOLVING BOILERS
and DIGESTERS for Paper and Wood Pulp.****HIGH PRESSURE STEAM BOILERS.**

Telegrams: "Glas. Leith."

Telephone: Nos. 213 and 214.

**E. CHALMERS & CO., LTD.,
BONNINGTON, LEITH.**

**Linen Rags. Cotton Rags. Canvas.
Hemp Ropes. Manilla Ropes.
Jute and Flax Bagging.
Waste Papers. Strawboard Cuttings,
Paper Shavings (Cream, White, Coloured, &c.)
&c., &c. All thoroughly well classed.**

ENQUIRIES INVITED.**SAMPLES ON APPLICATION.****N.B.—CASH OFFERS made for Disused Paper
or other Works for Dismantling purposes.****Scrap Metals (Iron, Brass, Lead, Zinc, &c.), Waste Rubber, &c., &c.,
purchased for prompt cash.****John W. Leitch & Co.****Milnsbridge Chemical Works,****Nr. HUDDERSFIELD,****MANUFACTURERS OF****Coal Tar Dyes for
Paper-Makers.**

Telephone Nos.:

180 & 180 Milnsbridge.

Telegrams:

"Leitch, Milnsbridge."

Samuel O'Neill**and Sons, Ltd.****LINDEN MILL.
CASTLETON,
LANCASHIRE.****Makers of****Strawboard Centres
for Paper Makers.**



COOL AIR
IN SUMMER
WARM AIR
IN WINTER
*But Fresh
Air Always*

...TRADE...
...MARK...

STEAM HEATER UNITS

Where a Central Heating and Ventilating Plant is not needed and Ventilation unnecessary, the Unit System is the ideal method of heating Factories, on account of its flexibility and the ease with which it can be installed.

The temperature can be regulated at each Unit, consequently no steam is wasted by overheating one portion of the building in order to maintain a desirable temperature in some other portion.

"Shroco" Units occupy little floor space and require no air ducts. They are invaluable for supplementing existing and insufficient Heating Plants. Send for particulars.

The
**HEATING & VENTILATING
OF FACTORIES**





ESTABLISHED 1848.

THORNTON & CO., LTD.

**India Rubber Manufacturers,
4, HANOVER STREET, EDINBURGH.**

Makers of all kinds of Rubber Goods required in a Paper Mill

The "Amazon" Driving Belt. Deckle Straps.
Strainer Diaphragms. Machine Aprons. Valves.
Delivery and Suction Hose.
Hat Shaped Rubbers for Rotary Strainers.

BALATA BELTING.

Telegraphic Address: "THORNTON, EDINBURGH."

CODES: A B C, 4th and 5th Editions.
Lieber's 6-letter. Marconi International.

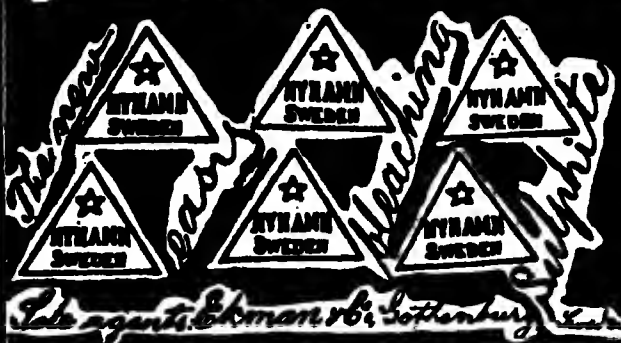
Telegrams: "KENYON, BURY."

James Kenyon & Son
LIMITED.

**PAPER-MAKERS'
FELTS.**

**Derby St. Mills,
BURY.**

Nyhamns Cellulosa Aktiebolag, Lund



KINNEAR

PATENT STEEL ROLLING

SHUTTERS

for
Car and Bus Depots,
Generating Stations,
Boiler Houses,
Harbour Warehouses,
Core Ovens,
Garages, and
Entrances Generally.

On Admiralty, War Office, and other Lists.

ARTHUR L. GIBSON,
Radnor Works, TWICKENHAM.

GLASGOW:
131, West George Street.

MANCHESTER:
90, Deansgate.

Russo-British Chamber of Commerce PETROGRAD.

An Association of English and Russian
Business Men, mutually interested in
Anglo-Russian Trade.

The First Chamber of Commerce in Russia.

Working in conjunction with the
RUSSIAN SECTION OF THE LONDON
CHAMBER OF COMMERCE.

Membership about 1,200.

**AGENCIES and CORRESPONDENTS in all the large
Centres of Russia, Great Britain and her Colonies.**

Members receive: Free information on
questions of Commerce, Industry,
Agriculture and Finance relating to
the Russian and British Empires,
printed in English and Russian; Free
Copy of the Monthly Journal of the
Chamber; Free Insertion of Inquiries
in the Journal, and many other privi-
leges.

For further particulars apply to:—

**THE SECRETARY, RUSSO-BRITISH CHAMBER OF COMMERCE,
4, Gorechovskia, PETROGRAD.**

**ACETATES
OF
LEAD.**

White and Brown.

PROCTER, JOHNSON & Coy.
17, Withy Grove, MANCHESTER.

DELIVERY FROM STOCK.

FRENCH CHALK.
Papermakers' Quality.

**OXIDE OF IRON,
BLUES, BLACKS,
& ALL COLOURS.**

We Had to Move.

Our old premises were crowded out, so we have built and equipped new and extensive premises, which—like the Packing—are the finest of their kind in the world. We pioneered the Metallic Packing business; we proved to engineers the economy secured by using our products, and we still remain where we have always been—right in the front.

When you think of PACKINGS the first name to occur to you will, without doubt, be

The United States Metallic Packing Co., Ltd.

SOHO WORKS, Allerton Road, BRADFORD.

Telegrams: "Metallic, Bradford."

Telephones: 4708, 4706.

SLITTERS

— and —

REWINDERS

are recognised the most
**PRACTICAL &
ECONOMICAL**



Modern
Fast
Running
Types

for high-class
precision rolls
and for all
grades of paper.

Holl. Kleefmachinefabriek

Rotterdam

St. Mariastraat 4

Engines.

GALLOWAYS

Boilers.

LIMITED

MANCHESTER

Telephone: 6312 Central.

Write for particulars.

**Tandem Compound
Drop-Valve Steam Engine,**

with SPECIAL DEVICES
for supplying

**MANUFACTURING STEAM at
STEADY PRESSURE from the
RECEIVER of the ENGINE.**



GROSE & STOCKER, STOKE-ON-TRENT.

Established
over 60 years.

All qualities of **CHINA CLAY** for Paper Makers.

Special qualities for Coating.

Also PEARL WHITE, MINERAL WHITE, and TERRA ALBA of the finest qualities.

Stocks kept at FLEETWOOD, GARSTON, RUNCORN.

Sub-Offices: 9, Hopwood Avenue, Market Place, MANCHESTER.

Telephone: 612.

Samples and Prices on Application.

Telegrams: STOCKER, STOKE-ON-TRENT.

Telegrams: "HIGGINBOTTOM, SALEM NEW MILLS.

MANUFACTURERS OF

National Telephone: No. 12 NEW MILLS

ROSIN SIZE FOR PAPER-MAKERS.

Also Rosin Size (any strengths) Oleines and Soluble Oils, Red Liquors, White Softening, Bleaching Pastes, etc., etc.

G. & E. HIGGINBOTTOM, LIMITED,

Salem Chemical Works, NEW MILLS, near STOCKPORT.

MANCHESTER CHINA CLAY CO., Ltd., 4 ST. ANN'S SQUARE, MANCHESTER.

Telegrams:
"Kaolin, Manchester."
Nat. Tel.: 3086.

JOHN WILLIAMSON, Manager, Royal Exchange, No. 23, Manchester.

Representatives for Scotland: W. G. TAYLOR & CO., Ltd., 29, St. Andrew Square, Edinburgh.

Trade  Mark
Registered.

All Qualities of **China Clay** Used by Paper Makers

Mines: ST. AUSTELL, CORNWALL.

Stocks at Manchester, Runcorn, Preston, and Leith.

CHARLES BAKER & Co., Paper Makers' Agents,

77a, QUEEN VICTORIA STREET, LONDON, E.C.

Telephone: City 4510 (4 lines).

SPECIALITIES:—

Telegrams: "Glazed, Cent., London."

WHITE and SUPER CALENDERED PRINTINGS, WRITINGS, BANKS, CARTRIDGES, GREASEPROOFS, IMITATION PARCHMENTS, KRAFTS, BROWNS, M.G. POSTERS, VEGETABLE PARCHMENTS, CAPS, &c.

SOLE AGENTS FOR
(Midland Counties & London)

THE HARTLEPOOLS PAPER MILL CO., LTD.

ALSO AGENTS FOR "219" MILL.

Established 1810. Telegrams—"Dyestuff, Manchester." Post Box—485 Manchester. Telephone—1213 & 1214 City.

MILLWARDS MERCHANDISE LTD.

14a, Blackfriars Street, MANCHESTER.

CHEMICALS, COLOURS & REQUISITES
FOR PAPER MAKERS AND STAINERS.

A New 1920 Edition is now on Sale.
Phillips' Paper Trade
Directory of the World.

THE MOST COMPLETE PUBLICATION EXTANT
CONNECTED WITH THE PAPER TRADES.

Price 21/- Post free.

Publishing Office: 47, CANNON STREET, LONDON, E.C.4.

Brunner, Mond & Co.

LIMITED.

NORTHWICH, CHESHIRE, ENGLAND.



The Strongest and Purest form of the Article in the Market
and therefore the most economical for the use of Paper-Makers.

CAUSTIC SODA.

Exceptionally
Pure.

76/77% 70/72% 60/62%

High
Strength.

The CULTER MILLS PAPER CO., LTD.

Telegraphic Address:
"NINEMILL, LONDON."

Telegraphic Address:
"NINEMILL, PETERCULTER."

Manufacturers of

Art Papers and Boards

Dull and Bright Enamels

Cloth-Lined Papers & Boards

E.S. Writings and Printings

Sensitized Cheque Papers.

Superfine Tinteds

Tub-sized Writings

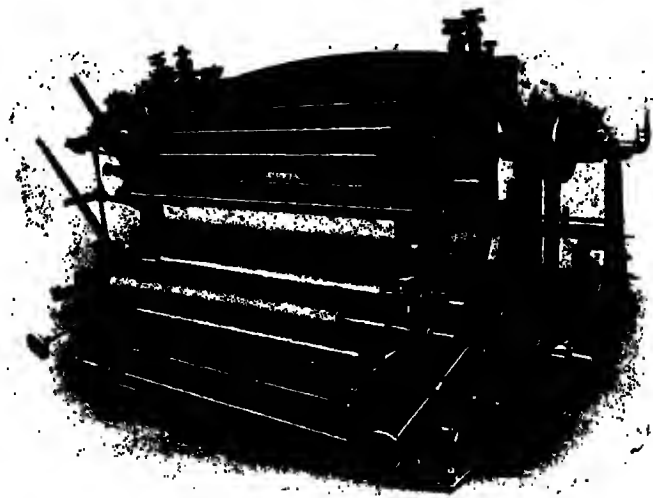
Imitation Hand-made with

Deckel Edge for Notepaper
and Fine Book Work

LONDON WAREHOUSE: 218, UPPER THAMES STREET, E.C.
WORKS—CULTER, PETERCULTER, ABERDEENSHIRE. MILL No. 9.

COATING MACHINERY

for
High Grade Work
IN
CHROMO,
ENAMEL,
ART and
BARYTA
PAPERS



SURFACE COATING MACHINE.

SIR JAMES FARMER & SONS LTD.
ADELPHI IRONWORKS
SALFORD-MANCHESTER

THE UNITED ALKALIE

CUNARD BUILDING, LIVERPOOL, ENGLAND

TELEGRAMS: "UNION" LIVERPOOL

TELEPHONE: 1000, 1001

MANUFACTURERS OF

CAUSTIC SODA

50/77%

Sulphite of Soda, Hyposulphite of Soda,

SODA ASH,

All Strengths by AMMONIA
and LEBLANC Processes.

Soda Crystals. Chloride of Calcium.

Bleaching Powder

CONTAINING 35-37% AVAILABLE CHLORINE

SULPHIDE OF SODIUM (Refined Concentrated and Crystals)

Pearl Hardening, Arsenic, Silicate of Soda.

SULPHUR Black, Red and Flowers

SULPHATE OF COPPER SALT

ELECTRIC CONSTRUCTION COMPANY, LTD.
ELECTRICAL PLANTS FOR MILLS

RELIABILITY. :: :: EFFICIENCY.

WORKS : : BUSHBURY, WOLVERHAMPTON.

F. REDDAWAY & Co., LIMITED

SOLE MAKERS OF "CAMEL HAIR" BELTING.

RUBBER COVERED ROLLERS.

COTTON DRY FELTS.

CANVAS HOSE. - - RUBBER GOODS GENERALLY.

Telegrams:
"ANCHORAGE,
MANCHESTER"

PENDLETON, MANCHESTER.

LONDON: 50/1, LIME STREET, E.C.

Telephones:
5520/1 CITY
5520 TRUNK.

T. J. MARSHALL & CO LTD

DANDY ROLL & MOULD MAKERS
WATERMARKING OF EVERY DESCRIPTION

Campbell Works, Stoke Newington, London, N.16. Phone. DALSTON 2500

If you want a DANDYROLL QUICKLY
telegraph "DANDYROLLS LONDON"

GBB



REGISTERED TRADE MARK.

GBB

Managing Director:

Mr. R. J. VARCOE.

Address:—THE
Goonvean China Clay & Stone Co.,
ST. AUSTELL, CORNWALL.

Notice. This world-famed coating and bleaching China clay is only sold under the brand G.B.B. and no other. We are informed that persons are trying to substitute other clays, and in other cases informing customers that G.B.B. cannot be obtained, in order to get in their own low grade clay. The Goonvean Co. hope consumers will send them information at once, if such or any abuse of our registered trade mark is made.

We also produce the **M.G.** and **G.V.** No. 2 China clays. Address enquiries, etc., to the Sole Producers as above.

THE Paper - Maker AND British Paper Trade Journal.

WITH WHICH IS INCORPORATED
THE WOOD PULP MAKER.
THE INDEPENDENT & PRACTICAL JOURNAL FOR THE PAPER & WOOD PULP TRADES.
Founded by S. CHAS. PHILLIPS M.S.C.I., in the Year 1891.

Telegrams "SONISA, LONDON."

and Cables "SONISA, MANCHESTER," A.B.S. (Code) 8th Ed.

Telephone No. 5429 (Bank)
No. 14 City (Manchester).

ALL RIGHTS RESERVED.

CHIEF OFFICE:

47, CANNON STREET, LONDON E.C.4

BRANCH OFFICES: 448 & 450, PRODUCE EXCHANGE BLDGS.
MANCHESTER.

Registered for the Canadian Magazine Post.

VOL. LXII., No. 2.

AUGUST 1, 1921.

MONTHLY 1/6; BY POST 2/6.
Subscription 21/- per Annum, Post Free.

C N A CLAY

WM. VARCOE & SONS

Established 1830.

LTD.

Head Office:—ST. AUSTELL,
ENGLAND.

Also Offices at:—

STOKE-ON-TRENT, MANCHESTER
and BRUSSELS.

ACCURATE & WELL FINISHED
MACHINE CUT Specially for
GEAR WHEELS Paper Making
Machinery. . .
Prompt Delivery.

EITHER SPUR OR BEVEL

HARPERS LTD., ABERDEEN.

ENGLISH CHINA CLAYS LTD.

ST. AUSTELL, CORNWALL.

LARGEST CHINA CLAY
PRODUCERS in the WORLD.

CHRISTIE'S PAPER MACHINE WIRES

ANY WIDTH
UP TO 240 (6.098 m.)
OF SPECIAL RUBY METAL.

London Office:
91/93 Bishopsgate,
E.C.

Noted for Long Life, Smooth Running,
Fine Finish, Flat Edges, Special Seams.

Telegraphic Address:
"LADYWELL,
GLASGOW."

GEO. CHRISTIE, LTD. LADYWELL WIRE WORKS, **GOVAN, GLASGOW.**

EXTRA STRONG CABLE OR
TWISTED WIRES
(TINNED AND UNTINNED).

WOVE, SPIRAL AND LAID
DANDY ROLLS
(PLAIN AND WATERMARKED).

WASHER WIRE AND FINE
CLOTHS TO 200
MESH.

R. L. LUNDGREN, LIMITED,

113, Queen Victoria St., LONDON, E.C. 4.

And at 2, St. Andrew Square, EDINBURGH.

**Specialists in Paper
and Enamelled Boards**



See

Our

SPECIAL

Advertisement on Page 267.

Telephone : --6058 and 6059 CITY.

Telegraphic Address : --

"LUNDGREN, CENT, LONDON."

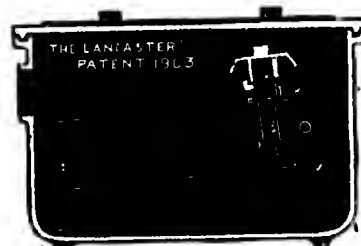
**Sole Agents for the
"GEE" Centrifugal
Separators for the
Paper Trade.**

**STANCOURT, SONS
& MUIR Ltd.,
24, Walbrook, LONDON, E.C.**

Telephone Nos. | Central 13193.
| City 9521.

Telegrams :
"Ultramarine, Cannon,
London."

"THE LANCASTER" (R.T.M.) STEAM TRAPS.



The SIMPLEST and most RELIABLE Traps sold,
and undoubtedly the SAFEST on the Market.

THOUSANDS IN USE IN PAPER WORKS
ALL OVER THE WORLD.

FIRST ORDERS always "ON APPROVAL."

LANCASTER & TONGE, Ltd.,

Sole Makers of "The Lancaster" Pistons, Ldmt
Piston Rings, Steam Dryers, Metallic Packings, etc.

Pendleton, MANCHESTER.

Telegrams : "Pistons, Manchester." Telephone : 4021 City.

**EOSINE
BRILLIANT GREEN
MALACHITE GREEN
METHYL VIOLET**

Ultramarine Blue (Alum-Resisting)
Carbon Black (Regent Brand)

Ochres } All kinds for
Umbers } Papermaking
Oxides }

**SOLUBLE BROWN CRYSTALS
GENUINE VANDYKE BROWN POWDER
BRONZE BLUE**

**SAVILLE, MARVEL & Co., Ltd.
GREAT ANCOATS, MANCHESTER.**

Phone : CITY 7774-5 (2 lines) Telegrams : "Vermilion," M/cr.

THE Paper - Maker AND British Paper Trade Journal.

WITH WHICH IS INCORPORATED
★ THE WOOD PULP MAKER.
THE INDEPENDENT AND PRACTICAL JOURNAL FOR THE PAPER AND WOOD PULP TRADES.

Vol. LXI.—No. 2.

AUGUST 1, 1921.

ONE SHILLING AND SIXPENCE.
By post, 2/6.

CONTENTS.

LITERARY.	PAGE	ADVERTISEMENTS.	PAGE	ADVERTISEMENTS.	PAGE	ADVERTISEMENTS.	PAGE
Important Action in the Law Courts	162	Beiliss & Morcom, Ltd.	305	Greenhalgh & Co.	264	Owry, Millar & Co.	258
Serious Fire at Swedish Pulp Mill	162	Bentley, David, Ltd.	285	Gross & Stocker	310	Page, Chas., & Co., Ltd.	239
Production of Kraft Paper in Canada	163	Bentley & Jackson, Ltd.	292, 293	Grubbens & Co.	274	Paper Bag and Bag Maker, The	260
Hartlepool Paper Co.	163	Berner and Nielsen	271	Gumelius, Ltd.	286	Pappers Travaru och Industriidskrift for Finland	272
LEADER—Industrial Peace	165	Bertram, James, & Son, Ltd.	218	Gummed Papers Manufacturing Co., Ltd.	269	Parkyn & Peters	250
My Note Book	166	Boletín de la Industria y Comercio del Papel	282	Guthrie & Co.	291	Parsons & Co., C. A. Ltd.	250
The Duke of York at Sittingbourne	174	Boving & Co., Ltd.	233	Hardman, Thos., & Sons, Ltd.	198	Pechetti & Sons, Ltd.	243
Lancashire Paper Mill Purchase	181	Bowater, W. V., & Sons, Ltd.	229	Hardy, Geo. F.	288	Pearman & Co., Ltd.	270
Lancashire Paper Trade Bowling Tournament	193	Bridge Paper Mills, Ltd.	286	Harpers, Ltd.	1 Cover	Perry, W. R., Ltd.	304
Edward Lloyd, Ltd.	193	British Dye Stuffs Corporation	194	Hazlewood & Sons, Ltd.	297	Philips & Co.'s Standard Publications	217, 272, 278
Paper Trade in Great Britain in 1853	195	Bruch, R., & Co.	258	Hick, Hargreaves & Co., Ltd.	256	Phillips' Paper Trade Directory of the World	257, 310
Stuff-Chest	203	Brunner, Mood & Co., Ltd.	311	Hickson & Partners, Ltd.	290	Polbin, H. D., & Co., Ltd.	273
Riordon Paper Company in Trouble	206	Butterfield, Ltd., W. P.	284	Hjorth, W.	314	Politt & Wignell, Ltd.	246
Northern Notes	207	Cady & Co., E. J.	283	Hollandische Kleinfachfabrik	298	Porritt & Spencer, Limited	172
Employers' Federation of Paper-makers	209	Cameron Machine Co.	287	Hollings & Guest, Ltd.	244	Pries & Pries, Ltd.	247
Openings for the British Paper Trade	211	Cardwell, J. L., & Co., Ltd.	239	Holt Brothers	304	Proctor, Jas., Ltd.	274
New Swiss Tariff	211	Carlsw & Sons, David	254	Huyok, F. C., & Sons	102	Ralston, W. & Co., Ltd.	280
Canadian Pulp and Paper Trade	212	Carrichael, Peter, & Co.	288	Hyatt, Ltd.	243	Radfern & Co.	282
Canada and the Restriction of Exports of Pulp Wood	212	Centrifugal Separators, Ltd.	176	Industrials' Guide, The	282	Riley's Chemicals & Colours, Ltd.	266
Wages in the Paper Trade	212	Chalmers, E., & Co., Ltd.	306	Inlands Nya Pappfabrika A/B.	274	Robey & Co., Ltd.	297
New Patents	213	Christie, Geo., Ltd.	1 Cover	Jackson & Brother, Ltd.	268	Rosolem Co., The	257
City and Guilds of London Institute	215	Church, Geo., & Co., Ltd.	182	Jebb Brothers, Ltd.	309	Rumtton, Edward, Son & Kenyon	296
Commercial Arbitration	216	Clarke, Chapman & Co., Ltd.	275	Johnson, C. H., & Son	198	Russo-British Chamber of Commerce	308
Australian News	216	Clayton Aniline Co., Ltd.	280	Johnston, Horsburgh & Co.	354	Sabel, Paul, & Co.	249
The Markets	219	Clegg & Son, Lewis	244	Kabbur & Co., E. H.	298	Salvesen & Co., Ltd.	248
Finance	221	Clemonson & Son, C. H.	280	Kellner-Parfington Paper Pulp Co., Ltd.	200	Sandos Chemical Co., Ltd.	278
THE WOOD PULP MAKER—Supplement.		Cole, Marchant & Morley, Ltd.	256	Kempster, Edward, & Sons, Ltd.	300	Saville, Marvel & Co., Ltd.	1 Cover
Pulp and Paper-makers in America	223	Continental Trading Co., Ltd.	296	Kenyon, W., & Sons, Ltd.	304	Scandinavian American Trading Co.	291
The Slump in Paper	224	Cookson Bros.	296	Kenyon, James, & Son, Ltd.	308	Scholes, John R.	238
Paper Pulp Supplies from India	224	Crookes, Roberts & Co.	299	Kirkland & Co., Geo. W.	258	Spleer & Sons, Ltd., James	208
Paper Mill Supplies in Argentina	225	Crypto Electrical Co., Ltd.	242	Kjallberg & Hedberg	295	Steinbach & Co.	241
Paper-making Difficulties in Australia	225	Culter Mills Paper Co., Ltd.	312	Launcester & Tonge, Ltd.	1 Cover	Stonier & Co., Ltd., F. & G. W.	286
Twenty-four Years Ago	226	Davidson & Co., Ltd.	307	Lancashire Dynamo & Motor Co., Ltd.	242	Stott & Co., Ltd., W. H.	289
Board of Trade Returns—Imports	227	Davies, G. E., & Co.	296	Lang Bridge, Ltd.	248	Sutcliffe Bros. & Bryce, Ltd.	240
Board of Trade Returns—Exports	230	Dawson, John, & Son	282	Laughton & Co.	272	Tehidy Minerals, Ltd.	257
Wood Pulp Markets	232	Domillon Engineering Wks., Ltd.	252	Leitch, John W., & Co.	306	Thirby & Co.	298
Industrial Future of India	232	Drum Engineering Co.	286	Landrum, Ltd.	170	Thornton, Thor.	290
Foreign Letters	234	Drysdale & Co., Ltd.	290	Lewis & Taylor, Ltd.	245	Thornton & Co., Ltd.	307
Canadian and American News	236	Duxbury & Sons, Ltd., Yates	168	L'Industria Della Carta	282	Trueman & Son, A. W. H.	240
Paper Pictures	238	Eburite Paper Co., Ltd.	220	Lonsdale Bros., Ltd.	244	Turbine Patent Furnace Co., Ltd.	240
ADVERTISEMENTS.	PAGE	Edwards & Sons, Ltd., W. D.	310	Lord's Barnbrook	306	United Alkali Co., Ltd.	1 Cover
Acheson, E. G., Ltd.	238	Eggers, Knut	252	Lundgren, R. L., Ltd.	1 Cover, 26	United States Metallic Packing Co., Ltd.	308
Agnes Axel, H.	272	Electro Bleach & By-Products, Ltd.	236	Manchester China Clay Co., Ltd.	310	United Wire Works, Ltd.	263
Akkeselstabet Pappersfabrik	231	Electromotors, Ltd.	276	Marshall, T. J., & Co., Ltd.	1 Cover	Varcoe, William, & Sons, Ltd.	1 Cover
Andrews & Co., Ltd.	278	English China Clays, Ltd.	180	Marr, R. J.	302	Vickers, Ltd.	296
Angell & Co., H. Reeve	204	Ericher Wyss & Co., S.A.	256	Manson, Scott & Co., Ltd.	303	Walmley, Charles, & Co., Ltd.	300, 301
Anglo News Paper Agencies, Ltd.	290	Etablissements Soulier Soc. Anon.	298	Mathar & Platt, Ltd.	271	Watford Engineering Works, Ltd.	295
Ashbrooks Limited	264	Farmer, Sir James & Sons, Ltd.	312	Matthews & Co., Ltd., Wm.	262	Watson, John M., & Co.	244
Ashcon, Frost & Co., Ltd.	279	Father, Jackson & Co., Ltd.	253	Mayer Coating Machines Co.	309	Waygamack Pulp and Paper Co., Ltd.	260, 261
Astoria de Construction Oerlikon	186	Ferguson, Hardy S.	282	McCrow, T. T.	225	Weddall & Co., Rex	239
Auld & Son, Ltd., David	252	Fomstrom, Edik	184	Millwards Merchandises, Ltd.	310	West Carian China Clay Co., Ltd.	291
Ayer, Ltd.	298	Finland Paper Mill Association	251	Milne, James, & Co., Ltd.	190	West End Engine Works Co.	299
Bechtold & Co., J.	240	Finland Paper and Wood Journal	272	Mitchells, Ashworth, Stanfield and Co., Ltd.	184, 185	Westwell, Ltd.	280
Baker, Charles, & Co.	210	Forester Paper Co. (1917), Ltd., The	246	Mogrove, & Co., Ltd.	292	Whitehead, R. R., & Bros., Ltd.	Back Cover
Barker & Co., Ltd.	238	Fox, Stoddell & Co.	281	Mogrove, John, and Sons, Ltd.	278, 277	Whitby Partners	308
Belgian State Railways	276	French Paper Stock Co.	255	New Paper & Board Tester	250	Wittmar's Aktiebolag	294
		Galloways, Ltd.	288	Nieuwhof, Surle & Co., Ltd.	282, 285	Wiggins, Topp & Co., Ltd.	280
		Gibson, Arthur L.	308	Nordberg Ltd., J. A.	228	Wid (John) & Sons, Ltd.	294
		Goonvann China Clay & Stone Co.	1 Cover	Nyhamns Cellulosa Aktiebolag	306	Wood Products, Ltd.	287
		Gordon, Watts & Co.	248	Nyhamns Cellulosa Aktiebolag	242		
		Gorrie, Edward, Ltd.	270	O'Neill, Samuel, & Sons, Ltd.	306		
		Gota, Gustaf A/B	164				
		Great Western Railway	284				

IMPORTANT ACTION IN THE LAW COURTS.

W. C. POWERS & CO., LTD. v. LEPARD & SMITHS, LTD.

On the 27th ult., in the King's Bench Division of the High Court of Justice, before Mr. Justice Baillache, an action was heard, the plaintiffs being W. C. Powers and Co., Ltd., and the defendants Lepard & Smiths, Ltd., both of London, and well known in the paper trade. Mr. R. A. Wright, K.C., and Mr. D. N. Pritt appeared for the plaintiffs, and Mr. D. C. Leck, K.C., and Mr. N. L. Macaskie for the defendants.

From the pleadings it appeared that by a letter of December 12, 1919, it was agreed that plaintiffs should sell and deliver to defendants certain paper, c.i.f. London, from a Canadian port at prices stated in sterling, plus the difference on such prices between the rate of exchange subsisting between Canada and London at the rate of \$4.70 per pound. Plaintiffs had delivered, and defendants had accepted and paid for, large quantities of paper under the agreement, and defendants had also paid differences of exchange thereunder. Plaintiffs said that the suppliers had not always drawn upon them as soon as the shipments left the Canadian port, but had on some occasions drawn upon the plaintiffs one month afterwards, and defendants had, on such occasion, paid plaintiffs differences of exchange based upon the rates at which the plaintiffs had been charged and had paid their suppliers for such paper. The plaintiffs contended that, by making such payments, and by letters of June 25 and 28, 1920, it was agreed in modification of the agreement that the differences payable by the defendants to the plaintiffs should be based upon the rates at which plaintiffs from time to time paid their suppliers. Defendants were further indebted to plaintiffs in respect of exchange differences based upon the rates at which plaintiffs from time to time paid their suppliers in the sum of £1,420 11s. 9d. Alternatively the whole of the exchange differences on the deliveries ought to be calculated upon the basis stated in the letter of December 12, 1919. Upon such basis the whole of the differences amounted to £1,189 1s. 1d., on account of which defendants had paid £203 19s. 4d. Further, in addition to the paper paid for, plaintiffs had sold and delivered to defendants 42 cases of paper of the price of £482 9s. 10d., and were entitled to a further sum of £78 16s. 8d. for differences of exchange.

The defendants, in the course of their defence, said that, save for a small portion of bond paper comprised in the orders referred to in the letter December 12, 1919, per the S.S. *Scotian*, the remainder of the goods shipped consisted of art paper, which was not the subject matter of the letter referred to, and was not subject to the provision for the calculation of differences in exchange contained in that letter. Defendants contended with regard to the plaintiffs' later shipments, in respect of which plaintiffs claimed £1,120 11s. 8d., that the difference in exchange below \$4.70 must be calculated on the basis of the rate of a sixty days sight draft drawn at the date or dates of shipment. And there was further due from defendants to plaintiffs for loss of exchange at most £599 13s. 10d., plus the sum of £40 1s. 9d. for difference in exchange below \$4.70 of a draft drawn on plaintiffs at their Montreal house one month after shipment for the invoice price of £212 4s. 8d. of a parcel of art paper shipped by the S.S. *Venusia*, and not the subject matter of the contract of December 12, 1919. The defendants admitted that there was due to the plaintiffs the sum of £482 9s. 10d., but denied that they owed the sum of £78 16s. 8d. for differences in exchange below the rate of \$4.70. Among other orders accepted by the plaintiffs was one for 7½ tons of Canadian Bond Azure (not water-marked) paper at 7½d. per lb., and defendants alleged that the plaintiffs shipped on or about May 25, 1920, per S.S. *Moltisfont*, to the defendants, not 7½ tons, but 1.47 cases

of the said paper, weighing about 25 tons, which were invoiced at £1,672 17s. 6d. The defendants agreed to accept the 25 tons in the belief induced by the representation of plaintiffs that the paper was Azure Bond. On August 6, 1920, the defendants paid the plaintiffs £1,672 17s. 6d., the invoiced price of the 25 tons of paper, and incurred an expense of £47 17s. for landing charges. Subsequently, on three occasions the plaintiffs supplied the defendants with out-turn sheets of the paper purporting to show that it was Azure Bond. Defendants contended that any Azure Bond paper was never sent by plaintiffs, but shipped about 25 tons of white paper, a considerable quantity of which bore the water-mark "Martin Bond." Thereupon defendants, by letter of January 3, 1921, rejected the paper, but on the request of the plaintiffs agreed to sell it for the account of plaintiffs. Defendants were only able to dispose of 1,390 lbs. of the white bond paper at the price of £42 13s. 1d., and after giving credit for that amount defendants claimed that they were entitled to a balance of £1,678 1s. 5d.

Plaintiffs, in their reply, repudiated any breach of contract, and said they delivered the 25 tons to defendants in or about June, 1920, and if the same was not Azure Bond paper, which was not admitted, the bulk corresponded in all respects with the out-turn sheets mentioned in the amended points of defence and other out-turn sheets supplied by plaintiffs and accepted by defendants. Defendants had not suffered any damage as alleged, inasmuch as the 25 tons referred to were worth, when delivered, not less than they would have been had they answered to the contract. Further, it was a term of the agreement that no claim of any kind should be allowed within three days of landing and opportunity given to plaintiffs of verifying the same. Plaintiffs brought into Court the sum of £125, whilst denying the liability, and said that that sum was sufficient to satisfy the claim which defendants might have in respect of the 25 tons referred to. Plaintiffs did not admit that defendants rejected or purported to reject the said 25 tons, and stated that a reasonable time for such rejection had elapsed between January 3, 1921.

After hearing counsel and witnesses, his Lordship eventually gave judgment for plaintiffs for £1,282 9s. 10d. and for defendants on counter-claim for £119 13s. 4d. with costs up to date of payment into Court, plaintiffs to have costs of counter-claim subsequent to payment in.

SERIOUS FIRE AT A SWEDISH PULP MILL.

A SERIOUS fire is reported to have taken place about the 17th ult., at the Lulea Pulp Mill, belonging to A/B Yttersfors-Munksund. A whole year's production of mechanical pulp was destroyed, but the mill itself was saved. About 9,000 tons of pulp were in store, and the warehouse was completely burnt down in a couple of hours, the wharf and four big barges being also involved.

In consequence of the depressed state of trade in the early months of the year and the stoppage of the company's manufacturing operations as a result of the coal strike, the directors of the United Alkali Co., Ltd., have decided to defer the question of interim dividend until their October meeting.

THE following are the proposed revised import duties for the United States on printing and writing papers, etc. : Printing paper, not specially provided for, present rate, 12 per cent. *ad val.*, rate proposed, 1 cent per lb., plus 10 per cent. *ad val.* Paper board and pulp board, present rate 5 per cent. *ad val.*, proposed rate, 10 per cent. *ad val.* Writing paper, etc. present rate 25 per cent. *ad val.*, rate proposed, 3 cents per lb., plus 15 per cent. *ad val.*

PRODUCTION OF KRAFT PAPER IN CANADA.

THE following extracts from an article by Mr. W. H. Sherrieff, of the Hodge-Sherrieff Paper Co., of Kingsway, W.C., in the *Toronto Globe* of the 6th ult., will be of interest:

Kraft paper was first made at Munksjo, in Sweden, by a Swede named Muntzing, who discovered what is known as the sulphate process of pulp-making. For many years the manufacture of this paper was confined to Swedish mills, but it eventually reached Norway. Originally this paper was imported into Canada in comparatively small quantities from Norway and Sweden, but it is now made in Canada and has become one of the Dominion's leading industries, and Canadian mills are now able not only to produce sufficient for the requirements of the home market, but also export a large portion of their output to British and foreign markets. Kraft pulp and paper were first manufactured in Canada in the year 1908, and the honour for its introduction belongs to the Province of Quebec.

Up to 1912 the production of Kraft in Canada was in its infancy, but during that year the supply was greatly augmented by the opening of the well-known mills of the Wayagamack Pulp & Paper Co. at Three Rivers, which are now the largest paper mills in the world, whose energies are devoted solely to the production of Kraft pulp and papers. Most other mills, both in Canada and abroad, produce several grades of paper, but Wayagamack have from the first specialised in genuine Kraft.

The use of Kraft in the manufacture of articles for which other raw materials were formerly used has increased to an extent that is nothing short of marvellous. For instance, only a few years ago Kraft envelopes were a comparative novelty; to-day they are made and sold all over the world in hundreds of millions, and give the same satisfaction as envelopes made from jute and cloth-lined papers costing three or four times the price. The use of Kraft bags also increased by leaps and bounds. They are used as containers for tea, coffee, sugar, fruits, candies, lime, cement, nails, and hardware of every description. Even clothing is being made from this wonderful product, and it is being used largely in the manufacture of workmen's overalls, which, strange as it may seem, are both fire and water proof. Kraft paper waxed or oiled is now the recognised wrapper for foodstuffs of a greasy nature, and its use for this purpose increases daily. Marketing bags, matting, wall papers, window blinds, awnings, chair seat coverings are other articles which are daily being made from this versatile product. Twines, too, are being manufactured from Kraft, and even tents are being produced from this paper, which has been found an excellent substitute for canvas owing to its ability to withstand rain.

At an early stage during the war, Kraft became a necessity. It was used in the manufacture of explosives and many tons of Kraft were used by various Munitions Boards in Canada and the United Kingdom in the preparation of rifle cartridges. A small wad of the paper was enclosed within the thin outer covering of nickel and took the place of lead. Millions of these bullets were fired at the Germans during the later stages of the war, and some months elapsed before it was discovered that they were different from other bullets. Hundreds of thousands of sand bags also were made from Kraft for use by the British and allied armies; these were used at the various battle fronts and also in England during air raids to protect historic buildings from damage by enemy aircraft. Thus Kraft paper may be said to have helped to win the war. The sand bags are made from the material previously woven from Kraft yarn, and thus the necessary strength required to hold their contents and withstand adverse weather conditions is obtained. They can be produced at a much lower cost than jute sacks

and are much more attractive in appearance, although I do not suppose the question of appearance was a matter of supreme importance to the troops in the field. But the latest and most ambitious use to which Kraft has been put is in the manufacture of what is called a corn or cereal cover. This unique article was invented by a gentleman farmer in the south of England and is used to cover wheat stooks and so protect them from the weather. The English climate is different from the Canadian; here the sun shines for weeks on end, especially during the harvesting season, and consequently wheat can be cut, threshed and stored before inclement weather is likely to set in.

Weather conditions in the Old Country are different; there is always an element of uncertainty as the farmer goes forth to gather in his crops. The sun may be shining brightly as he sets out, but before his task is half finished the rain may begin to descend and it may continue for hours or perhaps days. Under such conditions it can easily be seen that the farmer and the nation stand to lose, from damp and mildew, a considerable amount of what under more advantageous conditions would be a valuable crop. To obviate this the corn cover was invented. It is made from a strong sheet of Kraft in the shape of a miniature roof capable of covering ten or a dozen sheaves-stooks. Their adjustment is simple. The cover is placed over the stooks and fixed by two farm hands in the following manner: Two lengths of cord, also made from Kraft, are fastened to each cover. After placing the cover in position each worker threads a long needle and passes it through the stook to his companion, who passes it back again further down the stook, and so on, until the end of the stook is reached. When this is completed the grain may be left standing in the field indefinitely, regardless of weather conditions. The paper not only protects the corn from falling rain, but also absorbs any moisture that rises from the ground, and consequently the loss of valuable grain by adverse weather conditions is reduced to a minimum. There would appear to be no limit to the uses to which this remarkable product can be put.

HARTLEPOOL PAPER MILL CO., LTD.

PROPOSED AMALGAMATION.

THE following appeared in the *Financial News* of the 25th ult.:—"The Hartlepool Paper Mill Co., Ltd., announce that the general meeting will be held on July 26, but will be adjourned, as the accounts for the year ended April last are not yet completed, owing to negotiations which are taking place in connection with a proposed amalgamation in which the company is interested. The directors hope to submit details of the suggested amalgamation at an early date."

On inquiry we understand that the amalgamation referred to is "in the air," but the negotiations have not been completed.

A writer in *The British and South African Export Gazette* states:—"I am informed that much of the machinery ordered in the United Kingdom some little time back for the Baobab Concessions, Ltd., has now arrived in Portuguese East Africa, and that very shortly the company will commence operations. As my readers are aware, this concern is one of the first to take up seriously the export of paper-making materials from South Africa, and has secured from the Portuguese Government a concession for the exclusive exploitation of the baobab tree and its products over a very large area. Equally interesting, I think, is the notification that its factory on the bank of the Zambesi, near Tete, is also to be equipped for the manufacture of seaming and binder twine, which will be marketed in South Africa.

SULFITAKTIEBOLAGET GÖTA

— GÖTA, SWEDEN. —

Manufacturers of

G. T. WOOD PULP

EXTRA STRONG AND CLEAN.

*Dry, Unbleached Sulphite
Cellulose Pulp.*

*Wet, Unbleached Sulphite
Cellulose Pulp.*

Annual Output : 25,000 tons, dry weight.

Agents for Great Britain and Ireland :—

O. REICH & Co.,

STUART HOUSE, 1, TUDOR STREET, E.C.4.

mercially in America are running very much on the same lines as in Great Britain. He told me that business on the other side came suddenly to a standstill, but recent reports indicated a move in the right direction, and as a matter of fact Mr. Brooks confided to me that he was buying special papers whilst in London.

* * *

Mr. Robert W. Brooks is a gentleman who takes a very active interest in social questions, and incidentally he said that in parts of America he knew intimately there was a feeling amongst thinking people that the abolition of the manufacture and sale of strong drink had proved extraordinarily successful, and he did not think there was any probability of America going back or being dominated by the Wet Party. Mr. Brooks mentioned that he hoped he was not a bigot, but as a business man he realised that the effects of the abolition of the sale of intoxicants had worked wonders and, he added, significantly, "the people who say otherwise do not know the facts, or profess not to."

* * *

Another visitor to London during July was Mr. Uno Levan, the sales manager of Vargöns Aktiebolag. I learned from Mr. Levan that Mr. A. L. Wise has placed considerable business for "news" for Vargöns, and is now handling other papers made by this important firm. The company's mill near Trollhattan was, it will be remembered, re-built in 1919. The capital of the company is 40,000,000 kr. £2,222,222.

* * *

The Secretary of the Publishers' Association of Great Britain and Ireland informs me that at a meeting of the Council, held on July 7, it was decided to strongly advise members to abstain, so far as possible, from putting out any new books, new editions or reprints until a substantial reduction of the very high prices now prevailing comes into operation. This resolution is intended to apply particularly to the printing and allied trades.

* * *

I am pleased to learn, on authority, that the Livery Committee of the Stationers' Company is persevering and has achieved something. The Court, it will be remembered, sanctioned the setting-up of a small committee, representative of all sections of the Livery, which could act as a medium of communication between that body and the Court. I would not like to express an opinion as to how much has been achieved, but as one member of the committee put it to me, they are "pegging away," and at a recent meeting a suggestion was put forward that the Livery be allowed to elect annually upon the Court some of their members. It is pointed out that at present a large majority of the Livery have virtually no chance of ever becoming members of the Court.

* * *

It is intended to continue the monthly luncheons by the permission of the Court, and a further suggestion has been made that the accounts of the company should be made accessible to the Livery.

* * *

Another important request is to the effect that as the two dinners that used to be held annually up to 1914 cannot now be given owing to lack of funds, two dinners shall be organised for such members of the Court and Livery as wish to attend and are ready to pay for themselves and for a guest, if they wish to bring one. It is also suggested that if either dinner is likely to be too large it be given in two parts, one for the Senior and one for the Junior Livery, and that if the Court does not desire to organise such dinners, leave be given to the Livery Com-

mittee to arrange one or more as required. The committee desire to assure the Court that in making these suggestions they are in no way actuated by any revolutionary motives. In other words, they are honestly endeavouring to bring the Company's constitution a little more in line with what they consider to be the democratic requirements of to-day.

* * *

The *Toronto Globe* of July 6 contains a very interesting article by Mr. H. Sherriff, of the Hodge-Sherriff Paper Co., on "Kraft Paper." The article, which we reproduce in another column, gives some extremely interesting details as to the rapid strides made in the manufacture of kraft paper in Canada, and draws attention to the fact that when the Wayagamack Company have installed all their new machines they will be the largest manufacturers in the world of this grade of paper. When Mr. Wilson, the president of the company, was in London recently, he mentioned to me that Wayagamack are prepared to do everything in their power to gain their share of British trade, and being a British mill in spirit and in fact, he realised that this end cannot be achieved without the support of paper merchants and manufacturers in the United Kingdom.

* * *

Whilst on this interesting subject I am pleased to learn that there has been a distinct improvement of late in Canadian trade, and that April, May and June each showed a large increase in buying. My informant adds: "There is a distinct feeling of optimism here, and we believe that when the holiday season is over conditions will rapidly improve."

* * *

I have before me a letter from a large manufacturing firm in Germany, and the writer says: "We are seeking an agent to represent us in England now the war is over and wish for this purpose to place an advertisement in the columns of your valued trade journal, thinking this way meets quicker with our requirements than anyone else." The communication goes on to say that the firm wish to have a live gentleman to represent their up-to-date envelope factory in England. We have had much pleasure in informing our Teutonic admirer that up to the present we have consistently declined German business and hope to be in a position to continue this policy.

* * *

I am pleased to hear that Mr. Edgar Allen has been elected to the Board of Directors of the Eburite Paper Co., Ltd. Mr. Allen is a popular figure, and has been twenty-five years in the trade, and is very well known in London, Manchester, and the Provinces, where he has a large circle of friends.

* * *

Under Mr. Allen's management, the Eburite Paper Co. has developed considerably, and although, no doubt, this progressive concern felt the slump in common with the rest of us, I am pleased to hear that they are now in a happier position as regards business, having cut their losses over stock, and put their house in order for a good autumn trade, which is maturing.

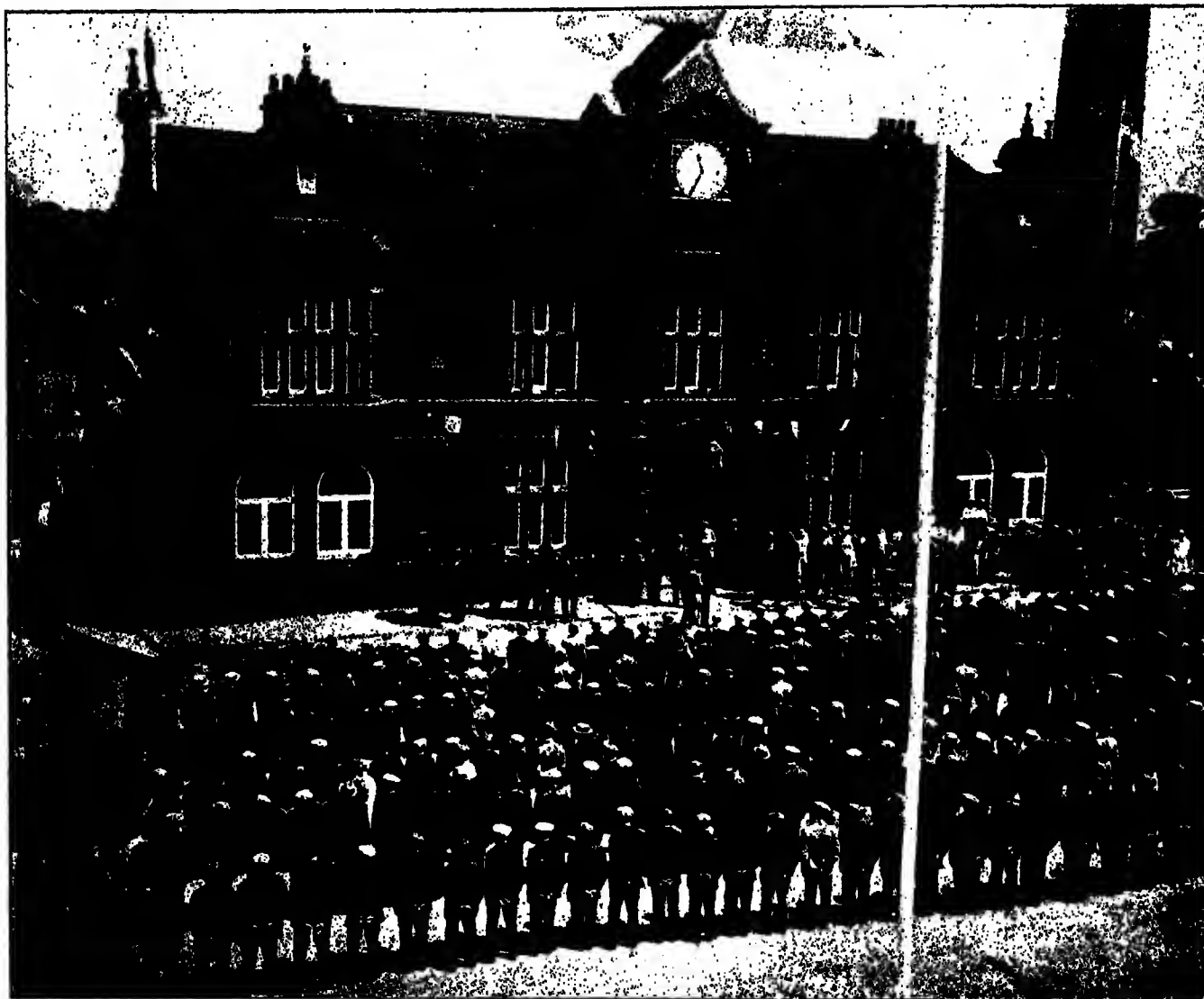
* * *

Mr. Allen has been connected with the Eburite Company since December, 1916, and the company is fortunate in having a strong and influential board, of which Mr. C. Scaramanga-Ralli, J.P., is the Chairman, and with Mr. Charles Gold, J.P. (formerly of Sedgwick Collins), Mr. M. Falcon, junr., M.P., Mr. R. F. Popham, and Mr. Allen, they form a strong combination.

J.L.G.

H.R.H. THE DUKE OF YORK AT SITTINGBOURNE PAPER MILLS.

INTERESTING PRESENTATION TO OLD EMPLOYEES ON JULY 14.



[Photo]

[Ramell, Sittingbourne.

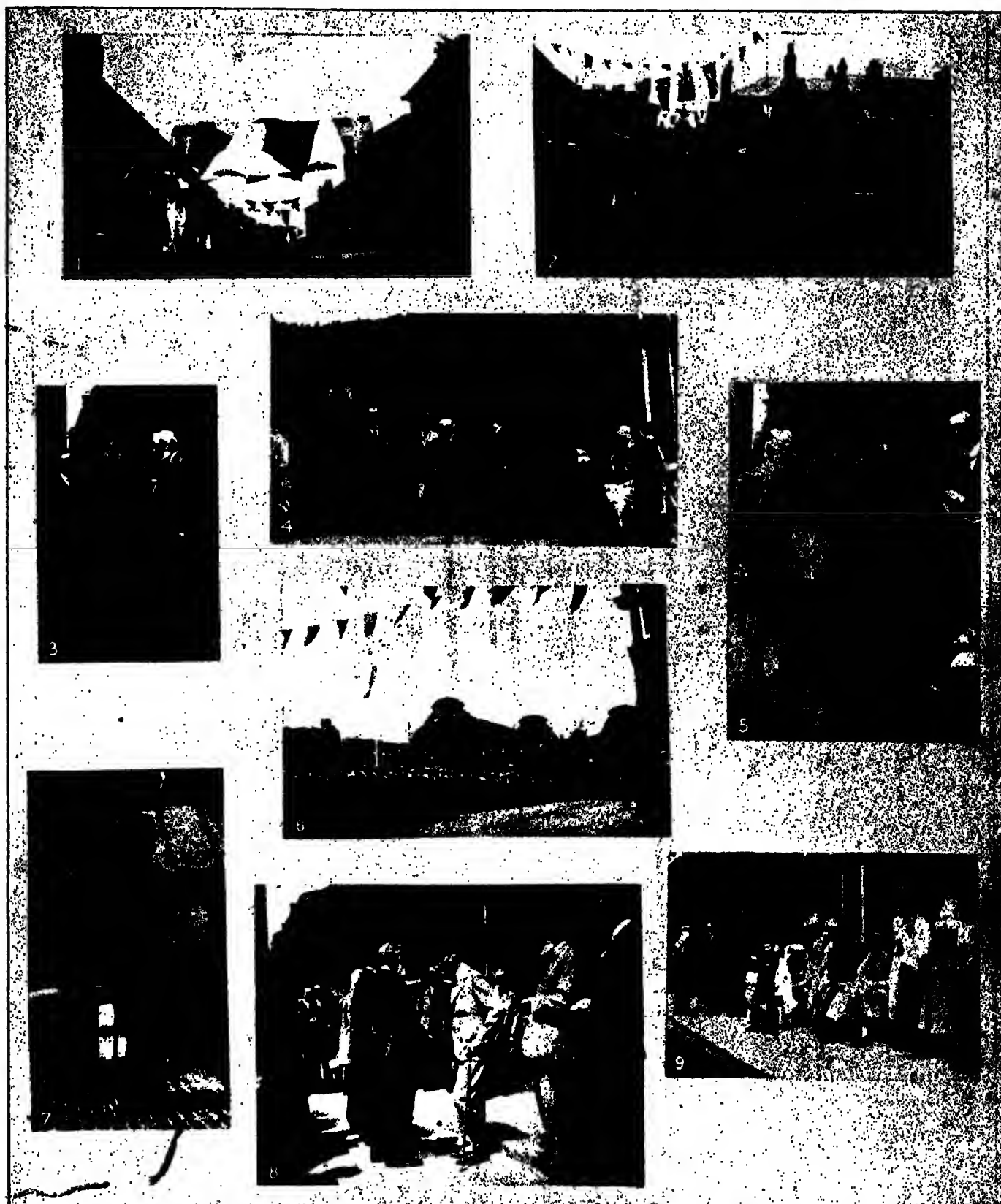
PORTION OF GUARD OF HONOUR UNDER THE COMMAND OF MAJOR GILHAM, M.C., AND LIEUT. THOMAS. (Accompanying the Duke of York is Major Gilham, while passing between the fourth and fifth ranks is Mr. Frank Lloyd, followed by Col. Garwood, D.S.O., and Mr. E. B. Miller.)



SITTINGBOURNE and the surrounding district was *en fete* in honour of the visit of the second son of His Majesty the King, H.R.H. the Duke of York, K.G. His Royal Highness had an enthusiastic reception on visiting the local exhibition for the Lord Roberts Memorial Workshops Fund, the paper mills of Messrs. Ed. Lloyd, Ltd., the local brick works of Messrs. C. Burley, Ltd., the Whitehall Preserve Works, and the brick and cement works of Messrs. Ince, Dean & Co., Ltd., at Murrston. The Duke of York and *entourage* motored from Buckingham Palace, and everywhere *en route* were cordially greeted. His Royal

Highness was timed to arrive at Sittingbourne Paper Mills at 11 o'clock, but it was nearly half-past eleven when hearty cheering greeted the arrival of the Royal car, and on reaching the mills the Duke of York was received by Mr. Frank Lloyd, chairman and governing director of Messrs. Edward Lloyd, Ltd. The guard of honour, consisting of 333 employees at the mill, all ex-Service men, was drawn up in front of the main offices under Major F. C. Gilham, M.C., R.F.A., and was inspected by His Royal Highness, passing down each line and chatting with a number of the men and shaking hands with those whose devotion and service claimed special attention. The mill band,

H.R.H. THE DUKE OF YORK AT SITTINGBOURNE PAPER MILLS.



1. THE APPROACH TO THE PAPER MILL. 2. IN THE MILL YARD. 3. MR. LLOYD RECEIVES H.R.H. THE DUKE OF YORK. 4. AWAITING THE ARRIVAL OF THE PRINCE—LEFT TO RIGHT: MR. RAYNHAM, COL. GARWOOD, MR. MILLER, MR. CLARK, MRS. DENSON. 5. MR. LLOYD INTRODUCES THE DUKE OF YORK TO THE DIRECTORS. 6. THE GUARD OF HONOUR—ALL EX-SERVICE MEN AND EMPLOYEES. 7. THE DUKE OF YORK AND MR. MARTIN IN THE BEATER-ROOM. 8. H.R.H. PRESENTS GOLD WATCHES TO FOUR OLD EMPLOYEES. 9. THE FAIR SEX WELL REPRESENTED.

Waste in Paper Mills

- ¶ The avoidance of waste is a national duty and a source of private profit.
- ¶ Millions of gallons of backwater from paper making machines contain small percentages of fibre and other valuable constituents which, if simply, efficiently and economically recovered for re-use, would effect an enormous saving.
- ¶ **The GEE CENTRIFUGAL FILTER** deals *at once* with this backwater, and extracts all valuable suspended constituents in a clean condition, immediately available for re-use. No settling tanks are required, and each filter treats upwards of **5000 gallons** of backwater per hour.
- ¶ The Gee Centrifugal Filter requires very little ground space, a minimum of attention and upkeep, and speedily recoups the cost of installation in the saving effected.

It will pay YOU to install one

CENTRIFUGAL SEPARATORS LTD.

8 Idlesleigh House, Caxton St., London, S.W.1

Agents for the Paper Trade

STANCOURT, SONS & MUIR, LTD.
24 Walbrook, London, E.C.4

under Bandmaster King, played the National Anthem as the Royal guest alighted. Amongst those presented to His Royal Highness were Lieut.-Colonel J. R. Garwood, D.S.O. (son-in-law of Mr. Frank Lloyd), Mr. E. H. Raynham, and Mr. Herbert Clarke, directors of the Company; and Mr. R. B. Miller, secretary and assistant manager at the mills. Mr. R. D. Bell, manager of the mills, is convalescing after his long illness, and unfortunately was unable to be present. Owing to the heavy programme arranged for His Royal Highness the inspection of the mill was rather hurried, as it was necessary to curtail the programme, but the Duke saw much that was interesting, and although he only visited a comparatively small portion of the mill, saw the general outlines of the manufacture of "news" print at the largest paper mill in the world and under the most modern conditions.

During the tour of the mills His Royal Highness was accompanied by Mr. Lloyd, Mr. Miller, the Directors, and quite a large body of visitors, passing Nos. 1 and 2 stockholds, where they were piloted by Mr. Reed, a very old employee of the firm. At the Wharf Bridge Mr. John Buggs (traffic superintendent) and Mr. W. Raynham (superintendent at Riddham Dock) were introduced to the Prince. Mr. R. Court, foreman of the light railway, and Mr. C. Overy, wharf foreman, were also presented at this point, and one of the mill locomotives, looking very spick and span, was standing sentinel with its load of coal trucks behind it and its driver and guard on the alert.

The party then visited the central power station, where the electrical superintendent, Mr. E. E. Fuller, was presented to the Prince, and Mr. Smith, the assistant-electrician, joined the group. Afterwards the Carrels Engine House (No. 3 main driving engine) was inspected, Mr. A. A. Richards, the chief engineer, being presented to the Duke, with Mr. George Rossiter, assistant engineer; Mr. T. Tidbury, draughtsman; and Mr. S. Clark, mechanics' shop

foreman, assisting. His Royal Highness at both points was keenly interested in the machinery, which was running beautifully, and looked a picture of clean efficiency, reflecting the greatest possible credit on the men.

At the entrance to No. 3 Mill potcher floor the party was met by Mr. C. Martin, head paper-maker, who was presented to the Duke. The process of newspaper manufacture was explained by Mr. Martin, and His Royal Highness passed slowly down the machine room between the firm's two largest paper-making machines (Nos. 16 and 17), where Mr. Martin and his men explained many points of interest to the Prince. Nos. 14 and 15 machines were also visited, No. 3 Mill loading stage and paper store, and then the Prince passed along No. 2 Mill, where a further nine paper-making machines were running with the utmost smoothness, turning out beautiful reels of paper. Messrs. W. J. Ball and Roberts (assistant paper-makers), Pearce and Brightman (machine foremen), and Hilliard, Budds,

Warner, Mills, Colegate and Killen (foremen-reelers) added to the Duke's knowledge of practical paper-making. It is interesting to note that of the leading men who had the good luck to be on the shift to man the paper machines inspected by the Prince, no fewer than twenty-one were ex-Service men. The tour concluded with a visit to No. 2 Mill reeler house and No. 2 Mill paper store.

The visitors present by the firm's invitation included: Mrs. T. E. Denson, Mrs. R. B. Miller, Master Mack Miller, Mrs. A. J. Evans, Mrs. Martin, Mrs. A. A. Richards, Mrs. E. F. Fuller, Miss Joan Fuller, Mrs. John Buggs, Mrs. Ball, Mrs. Welsh, Mrs. Garrett, Mrs.



Photo.

[Wrigglesworth, Sittingbourne.]

EX-SERVICE OFFICERS AND MEN TO WHOM H.R.H. THE DUKE OF YORK SPOKE.

Back Row (left to right).—Company Sergeant-Major A. Smith, D.C.M., M.M. and Bar (2nd Oxfordshire and Buckinghamshire Light Infantry); Private J. Kingston, D.C.M., Barbatie-Si-Credenta (Royal West Kent Regiment); Lance-Corporal S. H. Bing, M.M., M.S.M. (4th Field Squadron Royal Engineers); Private J. Finch ("The Buffs," East Kent Regiment); Sergeant W. Bartlett, M.M. ("The Buffs"); A.B. E. J. Sawkings, R.N.; C.P.O. J. Brisley, R.N.

Middle Row (left to right).—Gunner A. V. Carpenter, M.M. (Royal Field Artillery); Sergeant W. Taylor, M.M. (Royal Warwickshire Regiment); Private C. Hopkins ("The Buffs," East Kent Regiment); Rifleman C. Stone, M.M. (King's Royal Rifle Corps); Corporal A. Landen, M.M. (Royal East Kent Mounted Rifles); C.P.O. J. Gathercole, R.N.; Corporal A. L. Wiles, M.M. and Bar (Royal East Kent Mounted Rifles); Corporal W. G. Hobbs, M.M. (Royal East Kent Mounted Rifles); Private H. Weller (Grenadier Guards); Battery Sergeant-Major H. A. Martin (Royal Field Artillery).

Front Row (left to right).—Sergeant-Major W. Drury (20th Hussars); Private W. Plowman, D.C.M. (6th Northamptonshire Regiment); Skipper W. W. H. Britton (Royal Naval Reserve); Major F. J. Gilham, M.C. (Royal Field Artillery); Lieut. W. S. Thomas, (Royal Field Artillery); Sec.-Lieut. R. A. Trice (Royal West Kent Regiment); Corporal W. E. Cole, M.M. (Queen's Royal West Surrey Regiment); C.P.O. J. T. Collier, D.S.M., R.N.

Clark, and Miss Mary Clark.

On re-entering the quadrangle, His Royal Highness handed gold watches (the gifts of Mr. Lloyd) to four veteran employees, who had completed 50 years' service—a very pleasing feature of the Prince's visit. The recipients of this mark of honour and appreciation, in order of length of

service, were Mr. J. Warner, Mr. George Rossiter, Mr. Alfred Colthup and Mr. Philip Taylor. Each watch bore the following inscription:—"Presented to — by Mr. Frank Lloyd, Chairman and Governing Director of Edward Lloyd, Ltd., to commemorate 50 years of faithful service at the Sittingbourne Paper Mills, Sittingbourne, Kent, 14th July, 1921." The total length of service of the four veterans was 213 years.

The Departmental Stewards, under the direction of Mr. J. Sanderson (head chemist), were:—Office: Messrs. E. E. Smith, W. E. Kemsley, R. Bennett, H. S. Welsh, and D. C. Doughty. Wharf: Messrs. H. Wise, J. Widdish, C. Wigg, A. Stedman and J. Williams. Engineering: Messrs. F. Buggs, W. Plowman, D.C.M., W. Evans, G. Manning, and A. Hughes. Paper-making: Messrs. J. Stubberfield, J. Colegate, G. Budds, W. Daynes, and W. Hilliard. Electrical: Messrs. W. Mortimer, A. Wheeler and W. Kirk.

THE FOUR VETERANS.

Appended are a few brief particulars of the four Veterans to whom Mr. Frank Lloyd presented gold watches in appreciation of their long service:—

Mr. Joseph Warner, the oldest employee, who is 71 years of age, first commenced working for the late Mr. Edward Lloyd in 1864, at Bow, London, E., where he worked for 12 years, eventually being transferred to Sittingbourne. He was engaged the whole time on the potcher and beater, and for many years worked as change hand beaterman until recently, when he was placed upon the retired list. Mr. Warner is a widower, his wife having died 14 years ago, leaving him with one son and five daughters. His son, Thomas Warner, has served 27 years at the mill, and at present holds the position of foreman reelerman.

Mr. Alfred Colthup, who is 81 years of age, was first employed in 1867 at a time when the late Mr. Edward Lloyd was erecting workshops preparatory to installing paper-making machines. Mr. Colthup was employed as a carpenter prior to his retirement. Both he and his wife enjoy good health in spite of their age. They have five sons, three of whom worked in the mill as boys.

Mr. Philip Taylor, another veteran, now retired, started under the employ of the late Mr. Edward Lloyd in the year 1869 before the paper-making period, when the erection of sheds and workshops was in full swing. He acted as fitter and pattern maker and also as assistant engineer during the erection of the first paper machines installed. Mr. Taylor has one son and four daughters. His son, (Mr. P. D. Taylor) has been 35 years on the clerical staff, and in addition Mr. Taylor's granddaughter has been six years on the staff in the correspondence department. Mr. Taylor is 80 years of age and enjoys good health.

The combined period of service done by the Taylors is 93 years.

The remaining veteran is Mr. George T. Rossiter, aged 61, the only one of the four who has the distinction of having completed 50 years continuous service and being still on the active list. He commenced working for the firm in 1870, serving an apprenticeship and passing through the various branches of the engineering department until attaining the position of assistant engineer, which he still holds. It will be remembered that last year Mr. Rossiter was presented with a handsome watch at the Masonic Hall, Sittingbourne, upon the completion of 50 years' service in the firm. As on the previous occasion, he was accompanied this year by Mrs. Rossiter, to whom a suitable gift was made. Mr. Rossiter has two sons and five daughters.



Photo]

MAJOR F. C. GILHAM, M.C., SKIPPER W. W. H. BRITTON, R.N.R.
SEC.-LIEUT. R. A. TRICE, AND LIEUT. W. S. THOMAS.

THE RECENT HISTORY OF THE PAPER MILLS.

Readers of THE PAPER-MAKER will be acquainted with much of the history of the Sittingbourne Paper Mills and with the fact that these mills are now considered to be the largest in the world. It may therefore be only necessary to mention that the production of paper at Sittingbourne has reached over 400 tons daily and that 1,600 workmen are employed. The more recent history of the mill covers the period of the war and since the Armistice, and for this we are chiefly indebted to the columns of the *East Kent Gazette*.

When the war broke out, in August, 1914, the employees of the firm gave an immediate and ready response, recruiting being actively encouraged by Mr. Lloyd, through whose generosity ample allowances were made to the dependants of the men who were away, a committee of ladies, composed chiefly of the wives of the officials, under the direction of Mrs. R. D. Bell, forming a helpful link between the firm and the men's families.

The organisation of the mill under the strain of war conditions had to be completely transformed. Over 700 men of the staff joined the Forces, of whom 40 made the supreme sacrifice. Nearly 650 women replaced the men, special costumes and overalls being designed and provided for their comfort and safety amongst the machinery. The import of wood pulp was severely restricted during the war, and to keep their customers going, chiefly the large daily and weekly newspapers of the Metropolis, recourse had to be freely made to the use of waste paper. A special organisation was set up, and thousands of tons of this material were re-manufactured. Specially-designed tables for mechanical sorting were installed, and in this department large numbers of women workers found congenial occupation.

For many months the firm had three paper machines

at work producing heavy brown wrapping paper for munition purposes to the extent of over 200 tons per week.

Sittingbourne being in the danger zone, the mills had some narrow escapes from the frequent air raids suffered by this district. Few people will forget the memorable experience of the Zeppelin raid of Friday night, June 4, 1915. There is still preserved a piece of brass shell, which cut a clean hole through the skylight of the Stirling boiler stokehold, striking one of the stokers on duty a glancing blow on the arm, but, fortunately, inflicting no serious damage. On Sunday evening, September 30, 1917, one of our own shells, a "dud," crashed through No. 2 mill roof during an air raid, and did considerable damage to No. 6 paper machine. Had this happened on a week-night, with the machine running, it is difficult to estimate what might have happened, but the consequence would certainly have been most serious, with so many men and such a mass of machinery about.

Sittingbourne must have earned the reputation during the war of being one of the darkest places in the kingdom, and certainly the paper mills were most effectively obscured, notwithstanding the enormous extent of skylights and windows that had to be covered up, not to mention the five stokeholds.

The completion of Ridham Dock was delayed by the war, and in 1917 it was offered to, and accepted by, the Ministry of Munitions, as a salvage depot for war material from overseas, being finally returned to the firm only so recently as last March.

The mills saw many strange developments during the war, from drying the soldiers' rain-soaked sleeping blankets on the top of the boilers, to the fruit pulping in No. 1 straw building, which later became the general mess-room of the Wiltshire Regiment.

The change-over from war conditions to peace involved many difficult problems, and much hard work and thinking. The seven paper-making machines which were closed down at the termination of hostilities were rapidly got going again, so that by July, 1919, all were once more in active commission. The absorption of the men returning from the army was carried through without a hitch, and no one was kept waiting for a job. In the midst of the reorganisation the firm, in common with all paper mills in the Employers' Federation, had to change over from the two-shift to the three-shift system, a problem of especial difficulty, owing to the size of the mills, and the number of the employees. This also, however, was rapidly accomplished, and all other labour questions successfully dealt with. An immense amount of deferred maintenance work has had to be accomplished, including the complete re-roofing of Nos. 2 and 4 mills, the work having to be done without interrupting the running of the machines. In

spite of all these problems, and the various coal and railway strikes that have afflicted the country since the war ended, the firm has kept going, Mr. Lloyd's thoughts being always for his customers and his employees.

The welfare side of the mill, represented by the Employees' Sick Benefit Society, founded in 1878, is in a flourishing condition, the membership having risen from 32 in that year to 1,035 in 1921. The affairs of the Society are in the capable hands of Mr. T. Coxon, J.P., secretary; Mr. G. E. Garrett, chairman; Mr. W. Read, treasurer; and the experienced committee, and increased benefits are given by means of a special fund, provided by Mr. Lloyd. Quite recently the members raised amongst themselves a sum of £100 to endow a further bed in the Lloyd Memorial Convalescent Home, at Deal, and the honour of life mem-

bership has been allotted by the members to Mr. George Rossiter, who is believed to be the oldest member of the Society. Only last year the Society devoted the proceeds of their legacy under the will of the late Mr. T. E. Denson, the manager of the mill prior to the present manager, Mr. Bell, to found a bed in this Home in memory both of Mr. Denson and of their comrades who laid down their lives in the great war.

The Mill Recreation Club, formed this year to take full advantage of Mr. Lloyd's splendid gift of the new sports ground at Tunstall Road, is going strong, under the wise guidance of the chairman, Mr. A. J. Evans, and the enthusiastic general secretary, Mr. G. E. Garrett. Football, cricket, tennis, bowls, quoits, and swimming clubs are already in existence. A sports gathering has been held, and there have been musical evenings on the grounds during the summer.

The firm are naturally proud of being on the King's National Roll of Honour.

Messrs. Edward Lloyd, Ltd., operate extensive wood pulp mills at Honefos and Vittingfos, Norway, in addition to which wood pulp is imported from Sweden and Canada.

The following is a copy of the letter received by Mr. Frank Lloyd from Major Louis Greig on behalf of H.R. Highness, the original being posted up at the Gate Office of the Works:—

Buckingham Palace.

July 14, 1921.

Dear Mr. Lloyd,

The Duke of York has asked me to write and say how much he enjoyed his visit to your mills to-day.

His Royal Highness greatly appreciated the Guard of Honour of Ex-Service men, the more so since he learns that the men he had the pleasure of inspecting consisted of the two shifts off duty, and he wishes you to thank them for giving up their spare time to do him the honour of forming a Guard of Honour.

Yours sincerely,

(Signed) LOUIS GREIG.

Frank Lloyd, Esq.



Photo] EMPLOYERS OF OVER 50 YEARS' SERVICE WHO WERE PRESENTED WITH GOLD WATCHES BY MR. F. LLOYD. (Left to right—Mr. Alfred Colthup, Mr. G. T. Rossiter, Mr. Philip B. Taylor, and Mr. Jos. Warner.) [Ramell.



ENGLISH CHINA CLAYS LTD

Largest Clay Producers
in the World

500,000 TONS ANNUALLY

EXCEPTIONAL FACILITIES FOR PROMPT DISPATCH. DRYING
KILNS ALONGSIDE RAILWAYS—OWN SIDINGS AND TRUCKS.

DEPÔTS:

RUNCORN, GARSTON, FLEETWOOD, LEITH, BO'NESS, GLASGOW & CHATHAM

A LANCASHIRE PAPER MILL PURCHASE.

MR. JUSTICE P. O. LAWRENCE SUMS UP AND GIVES JUDGMENT.

THE decision of the Court in the case of *Ralph, Darwen and Pearce v. Temperley and Others* was given on Wednesday, the 13th ult. The action has been before the Chancery Division of the High Court presided over by Mr. Justice P. O. Lawrence on several occasions, and has been reported in previous issues of *THE PAPER-MAKER*. Messrs. Ralph, Darwen and Pearce, paper merchants, carrying on business at Finsbury Pavement, London, sought to recover damages for alleged conspiracy and fraud in connection with the purchase and sale of James Wrigley and Son's paper mill at Bury, Lancashire. The defendants were Mr. George T. Temperley, of Whitefield, Mr. Fredk. Whowell, of Hawshaw; Mr. William Bridge, of Bury; and Mr. James Bridge, of Blackpool. The allegations of the plaintiffs were that the defendants deliberately dissuaded them, by unfounded statements, from proceeding with a scheme, in which both they (the plaintiffs) and the defendants were jointly concerned, to purchase the property, and then bought it themselves and resold it at a profit of £86,000. Defendants denied the allegations, and declared that their negotiations with the plaintiffs never reached such a stage as to impose upon them any contractual fiduciary relationship with the plaintiffs.

Counsel engaged in the case were: Sir Malcolm Macnaghten, K.C. and Mr. St. John Field (instructed by Messrs. Goldberg and Barrett, of 2 and 3, West Street, Finsbury Circus, London, E.C.) for the plaintiffs; Mr. Mangham, K.C., and Mr. Dighton Pollock (instructed by Messrs. Rawle, Johnstone and Co., 1, Bedford Row, London, W.C., agents for Messrs. Addleshaw, Sons, and Latham, of Manchester), for the defendants Whowell and the brothers Bridge; and Mr. Owen Thompson, K.C., and Mr. F. K. Archer (instructed by Messrs. Chas. Russell and Co., Norfolk Street, Strand, London, agents for Messrs. Skelton and Co., Manchester), for the defendant Temperley.

MR. JUSTICE P. O. LAWRENCE said in this action the plaintiffs claimed damages for conspiracy and alternatively for fraud. The plaintiffs alleged that the defendants some time between July 11, 1919, and October 15, 1919, unlawfully conspired together to dissuade the plaintiffs from joining with them in the purchase of a paper mill at Bury in Lancashire, and certain assets enjoyed in connection therewith by misrepresenting the value of such mill and assets with a view to the defendants themselves acquiring such mill and assets for their own exclusive benefit. In order to ascertain whether the plaintiffs had proved the alleged conspiracy, it became necessary to consider the facts and documents in some detail. In June, 1919, Mr. Harold Jones, a solicitor in the City of London, informed the plaintiffs that a paper mill in Lancashire was for sale. The plaintiffs invited the defendant Temperley (a practical paper-maker in Lancashire) to come to London to discuss the question of acquiring the mill. On the morning of July 11, Temperley had an interview with the plaintiffs at their office. At this interview the plaintiffs asked Temperley whether he would inspect the mill and manage it if it were purchased. Temperley advised the plaintiffs that the first thing to do was to get a binding option. In the afternoon of the same day the plaintiffs and Temperley went to the office of Mr. Tom Jones, a chartered accountant, and brother of Mr. Harold Jones. Mr. Tom Jones then disclosed the name of the mill, but said he had not got an option. However, he produced a balance sheet of the mill up to December 31, 1918, and proposed that the plaintiffs should purchase certain of the assets at the figures at which they stood in this balance sheet, and the stock at a valuation.

After this interview, the plaintiffs and Temperley returned to the plaintiffs' office and discussed the question of procuring the necessary capital (part of which it was proposed that Temperley and his friends should find), and also the question of Temperley becoming manager of the mill. Temperley, on his return to Lancashire, mentioned the matter to his friend the defendant William Bridge, a cigar merchant at Bury, and those two defendants saw the defendant James Bridge, a brother of William Bridge, living at Blackpool. Both William Bridge and James Bridge expressed their willingness to put up some money for the acquisition of the mill. Before any further steps were taken, however, the owners of the mill, Messrs. Wrigley, early in August, decided not to sell and the matter remained in abeyance for a short time. Negotiations were resumed in September, and on the 17th of that month the plaintiffs wrote to Temperley that an option would be granted to September 30, and would be extended if there were good prospects of carrying the business through, and asking Temperley whether he thought it good enough to go over the mill, and when he could do this. The letter was answered by Temperley on September 18, saying that he thought it good enough if a price were fixed, and that it would be convenient for him to go over the mill early in the following week. In reply to this letter, the plaintiff Darwen wrote on September 19 that Mr. Jones had told him the price was fixed, and that he (Darwen) understood that the price put upon the business assets, paper mill, machinery, stocks and premises in London and Manchester was about £200,000. The inclusion of the stock in this figure was a mistake, as the stock was to be taken at a valuation. On the receipt of this letter, Temperley, on Saturday, September 20, saw William Bridge in Manchester and these two defendants went together to see the defendant Whowell at his residence at Tottington, near Bury. A further interview between these three defendants took place on Monday, September 22. As the result of these interviews, the defendant Temperley, on September 22, telegraphed to the plaintiffs asking for an interview in Manchester. On the same day Darwen had an interview with Mr. Jones in London, as the result of which Mr. Jones sent a letter dated September 22 to Darwen enclosing four documents, namely (1) a short description of the mill, (2) particulars of assets proposed to be sold to the new company, (3) analysis of stock at December 31, and (4) statement of purchases, renewals and amounts written off. The interview asked for by Temperley took place on September 24 at the Midland Hotel, Manchester, and there were present Darwen and the four defendants. There was a direct conflict of evidence, said his Lordship, as to what took place at that interview. In substance, he accepted Darwen's version of what transpired. As a matter of fact, the only thing definitely settled at that interview was that Temperley should make an early inspection of the mill and should report the result of that inspection to the parties interested. Although this was all that was definitely settled, the whole position was fully discussed. Darwen produced Mr. Jones' letter of September 22, and the four enclosures, the contents of which were explained by him to the defendants. Darwen told the defendants that he had interested himself mainly in the business with the object of securing for his firm the selling agency of the mill, and made a reservation as regards the London and Manchester premises, stating that he might require the London premises for his own use.

His Lordship said he believed Darwen when he said that

TELEGRAMS: "CHURCHMODE, NUN, LONDON. TELEPHONE: 771 NEW CROSS. CODES: A.B.C. 5TH EDITION. LIEBERS 5 LETTER.

GEO. CHURCH & CO., LTD.

MANIFOLD COPYING TISSUES AND PAPERS OF QUALITY PREPARED & IMITATION

WAXED
PAPERS

□ □ □

PITCH
PAPERS

WATERPROOF
PAPERS

□ □ □

OILED
PAPERS

FREE OF ODOUR.
ALL TRADE SIZES.

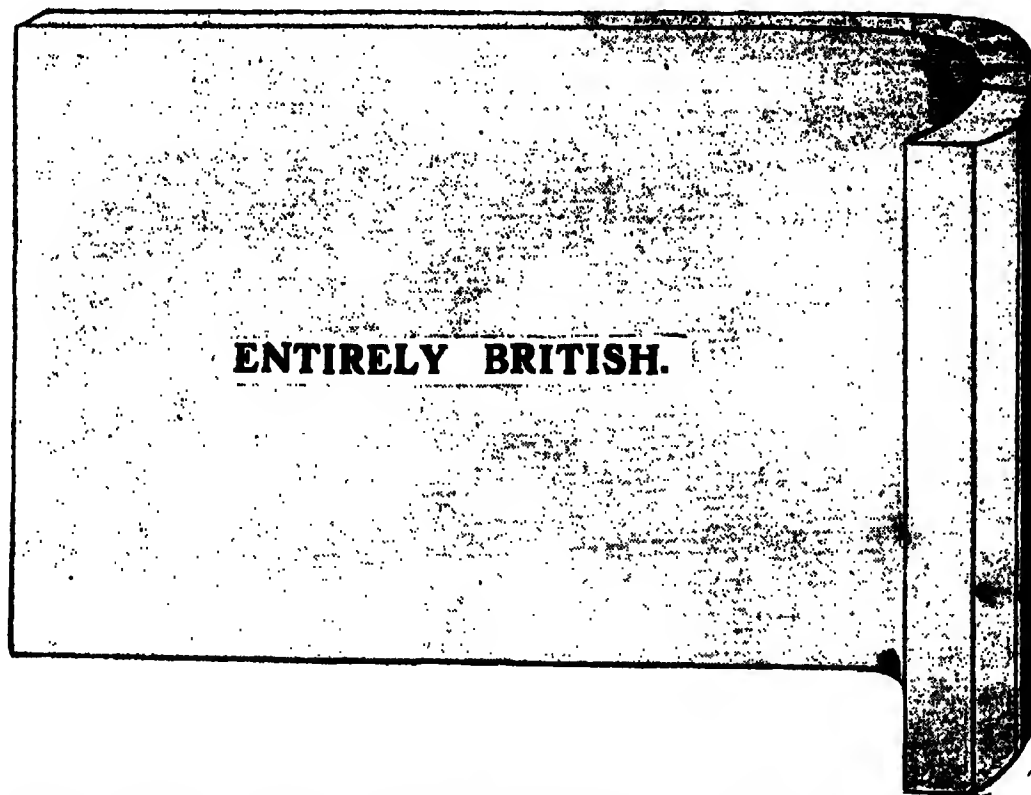
"STAR," "ACME" & "VICTORY" PAPER MILLS,
NUNHEAD LANE,
LONDON,
S. E. 15.

no objection was taken by the defendants at this interview to the suggestion that his firm should have the selling agency and the option of taking the London premises, and that the defendants apparently agreed to join with him in the purchase of the mill and assets on those conditions if Temperley's report on the mill should turn out to be satisfactory. He did not believe the defendants when they said that at that interview they positively refused to entertain the idea of the plaintiffs having the selling agency, and rejected the suggestion of any reservation of assets and told Darwen they would only consider coming in "on the ground floor" and buying "lock, stock and barrel." On September 25, the day following that interview, Darwen wrote to Temperley enclosing copies of the four statements which he had presented to the defendants at the interview on the previous day, and stated that he hoped to see Mr. Jones that afternoon, when he would ask him (1) for a letter confirming the verbal arrangement as to the deal, (2) for a complete balance sheet and also profit and loss account for earlier years, and (3) for an assurance that Mr. Arnott (Wrigley's manager at the mill) would answer any questions Temperley might put to him. On September 26 Mr. Jones wrote to Darwen that, having the first refusal of the mill, they would sell to Darwen and his friends the mill, estates and buildings, machinery and plant, and the offices in Manchester and London, and any other assets essential for the conduct of the business at the price at which they appeared in the balance sheet of December 31, 1918. On receipt of that letter, Darwen at once wrote to Temperley the letter of the 26th. In that letter Darwen set out the provisional agreement between the parties, referred to the fact that he had already explained that he had interested himself in the business mainly with the object of securing for his firm the sale of the production, and consequently that he would wish to have an agreement appointing his firm sole selling agents at a commission of 2½ per cent., and suggesting that the appointment should be for ten years. Darwen, in that letter, also referred to the fact that he had made the reservation as regards the London and Manchester premises, especially the former, as his London offices were too small, and not in the best quarter for his trade. Temperley stated in evidence that he did not receive that letter until Monday morning, September 29. In the meantime he had, on September 28, shown Darwen's letter of September 25 and the enclosures to William Bridge and Whowell, and had discussed the contents of those documents with both those defendants. Those defendants now said that they then, namely, on receipt of the letter of September 25 and enclosures, realised for the first time that Wrigleys were asking over £300,000 for what they (the defendants) had up till then understood they were to get for about £200,000. He (the Judge) did not believe their evidence to that effect. He held that Darwen made it plain at the interview on September 24 to the defendants what Wrigleys were asking for the mill, and that any misapprehension which might have been caused by Darwen's letter of September 19 had been removed at that interview. When Temperley received Darwen's letter of September 26, he showed it to William Bridge and Whowell, and thereupon those three defendants agreed upon the form of answer to be sent to Darwen. Temperley drafted out his reply at the foot of Darwen's letter, and, having made a fair copy of that draft, signed it and sent it to Darwen. That was how Temperley's letter of September 29, 1919, came to be written. Both Darwen's letter of September 26 and Temperley's answer of September 29 were, in his Lordship's judgment, inconsistent with the version given by the defendants as to what took place at the interview on September 24, and confirmed the impression his Lordship formed from the demeanour of those defendants in the witness box that they were not speaking the truth as to what occurred at that interview. The inference he (the Judge) drew was that on considering the statements made

by Darwen at the interview on September 24, and in his letter following that interview, the defendants came to the conclusion that the proposition that the plaintiffs should have the sole selling agency and should keep the London offices was one which they would not agree to, but that they resolved not to let the plaintiffs know that until Temperley had inspected the mill, and until they had further considered the position in the light of his report. That, in his Lordship's opinion, accounted for the fact that in the answer of September 29, instead of frankly saying that they would have nothing more to do with the matter if the plaintiffs insisted on having the selling agency and retaining the London offices, Temperley stated "Some of the matters you mention will concern all the interested parties, and I think they may be left over for the present." Temperley's explanation of that letter was that he did not want the negotiations broken off, and that, therefore, he disregarded the instructions given to him by Whowell and William Bridge, and did not tell the plaintiffs of the conclusion arrived at by those two defendants to have nothing more to do with the matter if the plaintiffs were to have the selling agency and the London office. William Bridge and Whowell said that, when they saw a copy of Temperley's answer a few days after it was sent, they remonstrated strongly with him for not having carried out their instructions. His Lordship said he did not believe either of those explanations. His conclusion was that the letter of September 29 was written by Temperley in accordance with what had been agreed upon by those three defendants. On October 9 Temperley inspected the mill, and on October 13 and 15 he wrote the letters which had been so much commented on at the trial. On behalf of the plaintiffs it was strongly insisted that those letters were written fraudulently in furtherance of the alleged conspiracy. The letter of October 13 was a preliminary letter, stating that Temperley was not yet in a position to give a thoroughly considered opinion until he had been furnished with some further particulars, but it went on to state that in the writer's opinion the profit and loss for pre-war years and also working costs were very unsatisfactory. The letter of October 15, so far as material, stated: "After careful consideration, I cannot recommend you and our other friends to entertain the purchase on the figures submitted to us. You will probably be surprised to learn that all the paper-making machines, except one, are practically obsolete." Before expressing his opinion on those two letters, his Lordship thought it was necessary to state what happened after they were written. Darwen, on receipt of the letter of October 15, saw Mr. Jones and the result of that interview was stated in a letter which Darwen wrote to Temperley on October 16. The most important part of that letter was that Temperley was asked to advise as to the figure which he thought would be a reasonable figure to give for the mill and assets. William Bridge, who was in London during the week ending on Saturday, October 18, said that he got a letter from Temperley on October 17 expressing his opinion on the value of the mill, and that thereupon on October 18, he went to see the plaintiffs at their London office, and told the plaintiffs in effect that the defendants would take no further part in the transaction, and that the matter was closed. It was, his Lordship thought, a regrettable circumstance and one open to suspicion that neither the original nor a copy of Temperley's letter to William Bridge—the only written communication known to have passed between any of the defendants—should have been forthcoming at the trial. It was a letter which, in his Lordship's opinion, must have thrown some light on the issue which he had to determine.

According to the evidence given by the defendants, Temperley, on October 18, saw Whowell, who said: "That settles it." He also on the same evening saw William Bridge on his return from London. The latter made a statement to the same effect, and then telephoned to his

MITCHELL COUCH ROLL



The late R. J. C. Mitchell's Patent

THE LIFE OF THIS JACKET IS UNSURPASSED.

WORKING ON MACHINES NOT ONLY IN THIS COUNTRY,

MITCHELL BROTHERS' BRANCH

of

MITCHELLS, ASHWORTH, STANSFIELD & Co., Ltd.,

MITCHELL'S JACKETS

Applied with signal success in the manufacture of
ALL CLASSES OF PAPER and adopted by the
largest Paper Mills throughout the Universe.



Mitchell's Jacket is still "running" and holds all records.

IN ALL PARTS OF THE CONTINENT AND THE WORLD OVER.

ALBERT WORKS, WATERFOOT, N^r. MANCHESTER.

LONDON, WAREHOUSE 23 & 24, Old Bailey, E.C.
MANCHESTER WAREHOUSE (Home Trade) .. 45, Newton Street, Manchester.

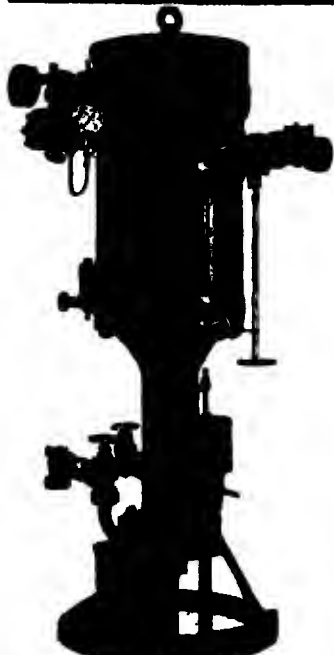
Telephone :
30 WATERFOOT.

Telegraphic Address :
"MITCHELL'S, WATERFOOT."

brother James Bridge, who seemed to have adopted the same view. On October 20 Temperley and William Bridge saw Whowell, and those three defendants seemed to have agreed that the matter was "absolutely finished," whereupon Temperley wrote to Darwen: "I have had an opportunity of seeing my other friends, who, after giving them my opinion, consider the matter closed so far as they are concerned. In the event of Messrs. Wrigley coming along with more attractive terms, and such that I could recommend to you and my other friends, I shall be willing to give any assistance or act in an advisory capacity" and he wound up the letter by saying, "however, as I have already stated, I shall bear you in mind should anything come along which may be of interest to you." Notwithstanding the definite statement in that letter that the defendants considered the matter closed, Darwen continued to negotiate with Mr. Jones, and suggested a further meeting with Temperley and the other defendants. In answer to that suggestion Temperley, on October 27, wrote to Darwen that he (Temperley) had again seen his friends and that they had decided not to make an offer. The letter proceeded: "As I have already stated, unless more satisfactory terms are forthcoming from Messrs. Wrigley, I could not advise my friends to seriously entertain the matter further." In that letter Temperley also stated what his Lordship had held to be untrue, namely, that Mr. Whowell at the meeting on September 24 said that the purchase was to include the whole of the assets, and that the defendants were to come in on the "ground floor." Temperley wound up the letter by stating, in answer to a question put to him by Darwen, that even if an arrangement were reached with Wrigley's, he might not be able to be actively associated with the concern, but that at present he was still in a position to take an active interest on the terms and conditions he had indicated to Darwen. Darwen continued to discuss the purchase of the mill with Mr. Jones,

and kept Temperley informed of his negotiations. Darwen again suggested a meeting, and Temperley hoped to his friends and promised to write. On October 30 Mr. Jones wrote to Darwen that an offer of £307,000 for all the assets free of liability was likely to be accepted, and gave particulars of what the assets other than the mill and estates were. In that letter he pointed out that if the stock were taken at £70,000, it would leave the mill and estates at £117,000, and wound up with the statement that unless Temperley could agree to this basis and let him hear by an early date, he would have to withdraw from the offer. Darwen saw his London friends on this new offer, and on October 31 wrote to Temperley suggesting an interview to which he desired to bring Mr. Barnes, as representing his London group, but did not then disclose the figures mentioned in Mr. Jones' letter of October 30. On November 3 Temperley wrote to Darwen that he had been in communication with his friends, but had not heard from them; that so far as he could gather they were still not disposed to entertain the purchase on the figures submitted; and that as matters stood at present he personally thought that Mr. Jones was at liberty to deal with the matter as he might think fit. On November 6 Temperley again wrote to Darwen: "My friends, whom I saw again last night, are still not inclined to entertain the purchase on the present terms." On November 8 Darwen telegraphed to Temperley asking for an interview at the Midland Hotel, Manchester, between three and four o'clock on the afternoon of November 10. On the morning of November 10 Darwen, accompanied by Mr. Barnes and Mr. Sandford, an expert valuer, of Manchester, went over the mill. After lunch Darwen went to keep his appointment with Temperley at the Midland Hotel, while Mr. Barnes went back to the mill to complete his investigations of the books, and he then joined Darwen and Temperley at the Midland Hotel. Mr. Barnes appeared

Telephone: 4167 GERRARD.

**ATELIERS DE
CONSTRUCTION****OERLIKON**Telegrams:
"OERLIK, STRAND, LONDON."
SWITZERLAND.

REVEL STEAM GENERATOR.
430 KW. 500 volts three-phase.
Steam output approx. 1,100 lbs. per hr.
" pressure up to 215 lbs. sq. in.

ELECTRODE STEAM GENERATOR, "REVEL SYSTEM."

Supplies Steam for any Industrial Purpose.

Features: Direct Supply with Single-, Two- or Three-Phase Current up to 3,000 volts. Steam Pressures up to 215 lbs. sq. in. Any desired quantity of Steam. Easy and little attendance. Reliable and safe working. Easy regulation of output. High efficiency. Minimum of space required. No current rush when starting. Working either alone or in conjunction with ordinary boilers or steam accumulators. Robust construction, as illustrated.

ELECTRIC BOILERS and AIR-HEATERS, WATER-HEATERS
of the circulating type.

STEAM TURBINES: High Pressure Mixed Pressure, Bye-Pass.
TURBO-GENERATORS. COMPLETE HYDRO-ELECTRIC

PLANTS. MOTORS and ELECTRICAL MACHINES
of every description.

BRITISH AND COLONIAL DEPARTMENT REPRESENTED BY

G. WUTHRICH, M.I.E.E., Manager and Chief Engineer,
34, Norfolk Street, Strand, London, W.O.2

to have arrived at the Midland Hotel at about 5.30, and in the meantime Darwen and Temperley had been sitting in the lounge and talking on general subjects. On Mr. Barnes' arrival, he produced particulars of the assets and liabilities and profit and loss accounts from the years 1911 to 1918 inclusive, and tried to get from Temperley what he considered the mill was worth. According to the evidence of Darwen and Mr. Barnes, Temperley was reluctant to state any values, but eventually, on being pressed by Mr. Barnes and Darwen, he was induced to give certain figures, which Darwen took down. Those figures, so far as material for the purposes of the case were: Buildings and machines, £50,000; stock as at 31-12-18, £40,000; Manchester premises, £20,000; London premises, £5,000; farm lands, £5,000; making a total of £120,000. In answer to questions put to Temperley in cross-examination, he stated that those figures were absurd, and that no such values could have been given honestly, by which his Lordship understood him to mean that they were far lower than he knew them to be. As, however, he emphatically denied having given them, he did not intend by his answer to admit that at that interview he had dishonestly or in fact understated the value of the mill and other assets. On November 11 Mr. Sandford wrote to Darwen and gave the sum of £222,000 as being, in his opinion, the approximate value of the mill and other assets, made up as follows: land, farm and houses, £17,000; works and buildings, £60,000; plant, £120,000; Manchester warehouse, £25,000; total, £222,000; but stated that those figures were liable to increase on a detailed valuation, for which his fee would be 450 guineas. No such detailed valuation was ever asked for or given. On November 14 Darwen wrote to Mr. Jones informing him of the visit to the mill, and of the interview with Temperley, and then stated as follows: "On returning to London, Mr. Barnes saw his friends and we had a meeting yesterday to discuss the matter. As a result, I regret to inform you that we find ourselves quite unable to come anywhere near the figure you mention as likely to be entertained, and I think it would be no use taking the matter any further." After that letter the plaintiffs took no further steps towards acquiring the mill.

Continuing, his Lordship said he must now go back a little in order to explain what was taking place in Manchester unknown to the plaintiffs. On November 1 Mr. Allen, who, besides being a fellow director of Whowell on the board of the Bleachers Association, was a connection by marriage of Mr. Charles Wrigley, wrote a letter to Mr. Wrigley as follows: "I understand you are contemplating selling your works and that the deal as contemplated has fallen through. If you are still of the same mind, I would suggest your communicating with Fred. Whowell, Croich Hay, Tottington, near Bury, or seeing him. He is a colleague of mine on the Bleachers Board, and has been in touch with the negotiations that have been going on. In my opinion you have everything to gain and nothing to lose by this procedure. Please reply to 4, Norfolk Street, Manchester." In consequence of that letter, Mr. Charles Wrigley, on November 11, made an appointment to see Whowell on November 12. Whowell, on November 12, telegraphed to Temperley asking him to attend the interview with Mr. Wrigley. On November 12 Whowell and Temperley met Mr. Wrigley. At that interview Temperley, according to Mr. Wrigley's evidence, stated that the reason why the previous negotiations had broken down was because the plaintiffs had offered the mill and proposed to keep the cream. The question of Whowell and Temperley acquiring the mill was then discussed, and it was arranged that any proposition which they might care to make was to be in Mr. Wrigley's hands in time for the meeting of the shareholders of Wrigley's Mill, which had been convened for November 20. The negotiations initiated at that meeting resulted in an option being granted

on December 6 to Mr. Skinner on behalf of the defendants to purchase the mill and other assets at a price equal to 14s. in the £ of the total issued share capital. That price worked out at a substantially lower figure than that which the plaintiffs had submitted to the defendants. The option was subject to the approval of the shareholders, and was confirmed by them on December 10. In the meantime, the plaintiffs having heard a rumour that the mill had been sold, wrote to Temperley on December 9 asking him whether he had heard anything about this. To that letter Temperley sent an answer on December 10 stating that he could not at the moment confirm what the plaintiffs had heard that the mill had actually been sold, but that negotiations were going on with a group known to some of the owners, and winding up with the question: "Has your friends' offer been refused?" A more disingenuous letter, said his Lordship, it was hardly possible to imagine. On December 13 Darwen wrote a letter to Temperley stating in substance that he had been informed that Temperley and his friends were the group to which he referred in his letter of the 10th, and asking to be assured that that was not so. No reply was vouchsafed to that letter. On December 17 Darwen again wrote to Temperley, and, in reply, Mr. Skinner wrote stating that Temperley and his friends felt that a frank talk would be better than correspondence, and suggesting an interview at Manchester. This was declined by the plaintiffs, who, however, expressed their willingness to meet the defendants in London after Christmas. Nothing came of this suggestion. On December 23, the defendants exercised the option granted to them on December 6. On December 31 the defendants sold the mill and assets to Mr. Wilkinson at a price equal to 20s. in the £ on the total issued share capital. On January 8, 1920, an agreement was signed carrying out the sale to the defendants. The result was that the defendants before completing the purchase had resold at a profit of about £86,000. On February 3, 1920, the writ in this action was issued.

Having stated what he considered to be the salient facts proved at the trial, his Lordship said it became necessary to consider whether those facts established the alleged conspiracy. Whatever might be said from the ethical point of view as to the conduct of the defendants in declining to join with the plaintiffs in the purchase of the mill and in their subsequently, behind the back of the plaintiffs, purchasing the mill for their own benefit, such conduct was not, in his judgment, of itself illegal. To entitle the plaintiffs to succeed, they must establish that the defendants, in order to effect their common design, namely, the purchase of the mill for their exclusive benefit, agreed with one another to understate the value of the mill. There was no direct evidence of any such conspiracy, but that did not conclude the matter, because a conspiracy like any other fact could, and in many cases could only, be proved by circumstantial evidence. Sir Malcolm Macnaghten, on behalf of the plaintiffs, strenuously contended that the circumstantial evidence in this case conclusively established that the defendants entered into the alleged conspiracy. On the other hand, Mr. Maugham and Mr. Owen Thompson, on behalf of their respective clients, insisted, and he thought quite rightly, that a charge of this nature must be proved beyond reasonable doubt, and that if the evidence was consistent with the non-existence of the alleged conspiracy, the Court was bound to decide in favour of the defendants, however badly they may have behaved towards the plaintiffs, and, although they may not have been speaking the truth as to what happened at the interview on September 24. There could, he thought, be no doubt in the mind of any person who had listened to the evidence in that case that the conduct of the defendants had been such as to arouse the gravest suspicion. In the first place, he considered that the proper inference to be drawn from the evidence was that the defendants, some-

Telephone :
6231 CENTRAL.

Telegrams :
FISKEBYAG, LONDON,"
Code 5th Ed. A.B.C.

ERIK FERNSTROM,

171, QUEEN VICTORIA STREET, LONDON, E.C.4.

Papermakers' Agent and Merchant - -

Supplier of—

M.G. PURE SULPHITE, excellent quality for bag making.

M G. SULPHITE WRAPPINGS.

M.G. MECHANICAL CAPS.

GREASEPROOFS.

TISSUES.

M.G. THIN SULPHITE, excellent for Waxing purposes.

KRAFT PAPERS.

GLAZED PRINTINGS.

NEWS.

ETC.

SOLE AGENT in the United Kingdom for —

Fiskeby Fabriks Aktiebolag.,

SWEDEN.

FISKEBY MILLS.

LJUSFORS MILLS.

SKARBLACKA MILLS.

Makers of 30,000 Tons of Paper per annum.

where about September 24 (it may have been shortly before or more likely directly after the interview which took place on that date) came to the conclusion that they would not fall in with the plaintiffs' proposition but would defer acquainting the plaintiffs with that conclusion until Temperley had inspected the mill and had formed an opinion as to its value. That, he thought, accounted for the defendants' prompt and apparently final decision after Temperley's adverse report on October 15 and for the fact that William Bridge was able without communicating with his co-defendants to tell the plaintiffs in London on October 18 that he and his co-defendants would not proceed further in the matter. It also accounted for the fact that Temperley did not tell the plaintiffs what he considered to be the true value of the mill, but confined himself to informing the plaintiffs that the mill was not worth acquiring on the terms submitted. The defendants said that they had no ulterior motive in arriving at their decision not to proceed with the matter; that they arrived at that decision mainly because the plaintiffs wanted the selling agency and the London offices; that they had no thought at that time of acquiring the mill for themselves; and that there was no suggestion or understanding that the value of the mill should be understated so as to choke off the plaintiffs. They accounted for the fact that they did not then and there break off the negotiations, but allowed Temperley to proceed with his inspection and make his report by saying in effect that if his report on the mill had been favourable, they might have reconsidered the position and come to some arrangement. The plaintiffs, on the other hand, contended that the true inference to be drawn from the evidence was that the defendants' sole reason for breaking off negotiations with the plaintiffs was that they desired to acquire the mill for themselves, and that in order to effect that design they had arranged amongst themselves that Temperley should inspect the mill and should then misrepresent its value to the plaintiffs. Neither the fact that Temperley postponed his inspection until after the option had expired nor the contents of Temperley's letters of October 13 and 15 in his Lordship's opinion afforded much assistance in arriving at a conclusion as to the right inference to be drawn on that vital question. The postponement of the inspection, though like everything else in that case a circumstance not free from suspicion, was capable of an innocent explanation, because Temperley before he inspected the mill asked for, and evidently desired, to have certain information and a plan, and moreover, wanted to make sure that Mr. Arnott was acquainted with the true reason for the inspection. The letters of October 13 and 15 merely gave expression to Temperley's opinion, which may have been genuine, that the profit and loss and working expenses were unsatisfactory, and that he could not recommend the purchase "on the figures submitted." His Lordship could not properly hold that Temperley's opinion on either of those points was one which no honest man could have held, and one which could only have been given in furtherance of an unlawful conspiracy to dissuade the plaintiffs from buying the mill. The letter of October 15, however, contained the statement that the paper-making machines, with one exception, were "practically obsolete." A good deal was sought to be made of that statement, but even if it was true to say that the expression "practically obsolete" was too strong an expression to apply to machines which, though of an old type, had been kept in working order, and were still capable of doing useful work, yet he thought that it would be unreasonable in view of the evidence he had heard as to those machines to hold that that statement was of itself sufficient to stamp the letter as fraudulent.

His Lordship said he proposed next to consider whether the subsequent events threw any light on the question, and whether judged by those events he ought not to hold that the letters of October 13 and 15 were written in

furtherance of the alleged conspiracy. As already stated, the defendants, after Mr. Temperley's report on his inspection of the mill, plainly told the plaintiffs that they would have nothing more to do with the plaintiffs' proposition. It was said on the plaintiffs' behalf that whilst making that statement the defendants were, in fact, carrying out their design of acquiring the mill for themselves, and that that was shown first by the cipher entry made by William Bridge in his diary on October 20, and secondly, by William Bridge's statements to Mr. John Hill on October 23 and to Mr. William Nabb on October 31. The plaintiffs' contention was that that entry and those statements proved that the defendants' object in turning down the plaintiffs' proposal was to clear the way for the accomplishment of their design. He (the Judge) thought it would be stretching the evidence unduly to hold that it established that contention. Bearing in mind the date when and the circumstances under which the cipher entry was made, it was, in his opinion, consistent with the explanation given by William Bridge that it was made partly out of curiosity and partly to enable him to satisfy those of his friends who had promised to subscribe. As regards the statements made to Mr. Hill and Mr. Nabb, it must be remembered that the plaintiffs did not accept the defendants' refusal to entertain the purchase, and that Temperley on at least two occasions after October 20 saw the defendants at the plaintiffs' suggestion in reference to further propositions put forward by the plaintiffs, and it might be that William Bridge did not want to choke off his friends whilst there was still some chance of requiring their assistance. Be that as it might, however, the evidence of Mr. Hill as to the date of his conversation was so vague and unconvincing that it left him (the Judge) seriously in doubt as to whether it did not really take place before October 20, and the conversation with Mr. Nabb was of such a casual nature and took place under such circumstances that it would not, in his judgment, be right to attach any real importance to it. What further caused him serious doubt was whether he would be justified in inferring that there existed at that time any arrangement or understanding between the defendants to acquire the mill for their own benefit was the fact that the plaintiffs were definitely told on or about October 20 that the defendants had finished with the matter, and were left as from that date entirely free to employ some other expert to value the mill and to negotiate their own terms with the owners if they had wished to do so. Assuming, however, that the true inference from the evidence was that the defendants had, prior to October 20, determined themselves to purchase the mill to the exclusion of the plaintiffs if they could induce the owners to sell it to them on their own terms, that would not of itself entitle the plaintiffs to succeed unless he was justified in drawing the further inference that they had also agreed to clear the plaintiffs out of the way by fraudulently misrepresenting the value of the mill. He apprehended that the defendants could lawfully agree between themselves first to turn down the plaintiffs' proposition, and then to buy the mill for themselves, however shabby such conduct might be, so long as it was no part of the agreement that they should use unlawful means to carry it into effect. He had already stated that the letters of October 13 and 15 did not of themselves justify the inference that the defendants agreed to fraudulently misrepresent the value of the mill. But the plaintiffs' case by no means rested on those letters alone. They relied on what happened afterwards.

Dealing with Mr. Allen's letter to Mr. Wrigley of November 1, his Lordship said that Mr. Allen was a colleague and friend of Whowell, and his having written to Mr. Wrigley in the manner already mentioned was certainly open to the suspicion that the letter was instigated by Whowell. Even if that suspicion were well founded, it did not, in his opinion, prove that the defendants had previously to October 15

PAPER MAKING MACHINERY
of EVERY DESCRIPTION.



TELEGRAMS:

"MILNE. EDINBURGH."

CODES:

A.B.C. 4TH & 5TH EDITIONS.

MARCONI INTERNATIONAL.

conspired to choke off the plaintiffs by misrepresenting the value of the mill, but was consistent with Whowell and the other defendants having at some time or other conceived the idea of approaching Mr. Wrigley with a view to seeing whether they could buy the mill on more favourable terms than had been offered to them by the plaintiffs. But Mr. Allen had been called as a witness and had explained how he came to write that letter. He positively denied that Whowell instigated him to write the letter, or even knew that he was going to write it. He was not shaken in cross-examination, and he (the Judge) had no valid reason for disbelieving his evidence. Then came the interview of November 10. Sir Malcolm Macnaghten had contended, and, in the circumstances, there was a good deal to justify his contention, that Temperley's denial that he gave any detailed figures at that interview ought not to be accepted by the Court, and that such denial if not accepted led inevitably to the inference that the figures taken down by Darwen were given by Temperley dishonestly in furtherance of the alleged conspiracy, and even if that be not the true inference, then or at all events, on the assumption that his denial was untrue, the giving of the figures amounted to a fraudulent misrepresentation on Temperley's part which would justify the Court in granting damages for fraud against him apart from the alleged conspiracy. Although, having regard to the conduct of Temperley and of the other defendants in connection with the transactions, and to his and their untruthfulness in the witness box, he was by no means averse to drawing every adverse inference against the defendants which he could properly draw, yet there were certain undisputed facts in the case which had led him to the conclusion that he was not justified either in holding that Temperley's denial was altogether devoid of truth, or in inferring as much as Sir Malcolm Macnaghten in his forcible address had invited him to infer. Those facts were: First, the fact that the interview was sought by the plaintiffs and not by Temperley; secondly, the fact that at the interview Temperley was most reluctant to give his opinion on the value of the mill, and only gave it after considerable pressure; thirdly, the fact that to the knowledge of Temperley Mr. Sandford had that morning inspected the mill with a view to advising the plaintiffs as to its value, and the plaintiffs would within a day or two at the latest be in possession of his report; and fourthly, the fact that after that interview when the question of the defendants buying the mill for themselves became a practical proposition, they were in no haste to conclude a bargain, and that it was not until December 6 that the option was granted to them, and then on different and more favourable terms than had been put forward by the plaintiffs. In addition to those undisputed facts, there was one further fact which he could not leave altogether out of sight, and that was that the values taken down by Darwen were so low as to make the price which the owners were asking appear grossly excessive. Temperley, whilst strenuously denying that he had given those values, did not hesitate to stigmatise them as absurd, and such as could not have been honestly given by him. His evidence on that point, in marked contrast to most of his other evidence, was given with apparent readiness and candour, and certainly made some impression upon his (the Judge's) mind. That being so, his Lordship hesitated to infer that if, as both Darwen and Mr. Barnes asserted to have been the fact, there was a real reluctance on the part of Temperley to give any opinion at all as to value, he should have gone to the interview with a mandate of his co-defendants to under-state those values. Nor did it seem certain that in those circumstances he went to the interview with the idea of making any fraudulent misrepresentations as to value on his account, or that on being pressed he, on the spur of the moment, conceived the idea of making any such fraudulent misrepresentations. Of course, there was the possibility that Temperley might have been playing a part and that

his apparent reluctance to state any values and his apparent candour on that point in the witness box was merely assumed, but, if so, he was a more consummate actor than he (the Judge) took him to be.

In conclusion his Lordship said: In view of all these facts, I find it impossible to say that it is beyond reasonable doubt that the explanation of this interview suggested by Counsel for the defendants is not the true explanation, namely, that Darwen and Mr. Barnes misunderstood Temperley's answers at this interview. Temperley's answers were extracted from him by means of questions put to him by Darwen and Mr. Barnes. Something in the nature of a cross-examination must have taken place, and, having seen Mr. Temperley in the witness-box, I think that it is not impossible that his answers were confused and far from clear. Temperley admits that he may have mentioned the figures of £120,000 to £130,000 as the value of the buildings and machinery, and it is not suggested that the detailed figures which Darwen took down were read over or shown to Temperley. It is quite consistent with the evidence given by Darwen and Mr. Barnes as to what took place at this interview that the latter suggested certain figures to which Temperley was understood by Darwen and Mr. Barnes to assent. If such was the case, mistakes may have occurred. Moreover, it is to be noticed that the value of the stock is stated in Darwen's note to be as at December 31, 1918. Some confusion must have existed as to this, as it must have been obvious to Darwen and Mr. Barnes that Temperley could not really have formed any opinion as to the value of the stock as at that date, because the first time he went over the mill was on October 9, 1919. In making these observations, however, I do not want it thought for a moment that Darwen and Mr. Barnes did not state what they believed to be true. What I desire to convey is that on the evidence as to what took place at this interview it would, in my judgment, be unsafe to convict the defendants of having fraudulently conspired to misrepresent, or to convict Temperley of having in fact fraudulently misrepresented the value of the mill. In these circumstances, I consider it my duty to hold that the charge of fraudulent misrepresentation at this interview has not been established beyond reasonable doubt. There is one further matter which has weighed with me considerably in coming to a decision in this case and which I ought, therefore, to mention. If the price at which the defendants eventually agreed to buy the mill had, as alleged in the original statement of claim, been largely in excess of the amount at which the mill was offered to them by the plaintiffs, or even if the terms and price eventually arranged by the defendants had been substantially the same as those put forward by the plaintiffs at the interview on September 24, the case, in my opinion, would have assumed an entirely different complexion. In either of these events I should have not felt much hesitation in inferring that the charge made by the plaintiffs had been established. The fact that the amount which the defendants actually agreed to pay for the mill so far from being in excess of, was substantially less than the figures appearing in the 1918 balance sheet, has undoubtedly influenced me largely in coming to the conclusion that on the whole I am not justified in drawing the inference that the defendants had conspired to misrepresent the value of the mill, and this notwithstanding the lies which I hold that the defendants have told in the witness-box. These lies were, in my judgment, told in order to induce me to believe that the defendants had from the first told the plaintiffs what they now alleged was the real reason for their refusal to entertain the plaintiffs' proposals, and thus to negative the idea that they had been guilty of shabby conduct. The gravity of the offence of trying to deceive the Court in any particular, whether having a direct or indirect or no bearing on the issue to be decided, can hardly be over-stated, but I do not consider myself at liberty to punish the defendants for telling those



F. C. HUYCK & SONS

Manufacturers of Woollen

FELTS AND JACKETS

for Paper Machines

ALBANY, N.Y., U.S.A.

Inquiries and orders requested through the following agents,
who will furnish samples, prices and full information:

FOX, STOCKELL & CO., 61, St. Mary Axe, London, E.C.3.

Agents for United Kingdom, Holland, Belgium France and Spain.

LORENTZEN & WETTRE, Christiania, Norway.

Agents for Norway, Finland, Russia and Denmark.

LORENTZEN & WETTRES MASKINAFAR, Stockholm, Sweden.

Agents for Sweden.

SOCIETA COMMERCIALE ITALO-SCANDINAVA, Genoa, Italy.

Agents for Italy.

THE TOYO SHOKWAI, Tokyo, Japan.

Agents for Japan and China.

PARSONS TRADING CO., 17, Battery Place, New York, N.Y.

Agents for South America, Australia and India.

lies by finding that they conspired to misrepresent the value of the mill to the plaintiffs. In the result, I have come to the conclusion on the whole case that, although there are grounds for suspecting that the charge made by the plaintiffs may be true, the evidence does not justify me in holding that it has been established beyond reasonable doubt that the defendants entered into a conspiracy to misrepresent the value of the mill and assets to the plaintiffs, or that any fraudulent misrepresentations as to the value of the mill and assets were in fact made to the plaintiffs. That being so, I feel bound to dismiss this action, but, in the exercise of my discretion, I do so without costs.

[We understand that the plaintiffs have decided to appeal.—Ed.]

LANCASHIRE PAPER TRADES BOWLING TOURNAMENT.

DESPITE very adverse weather conditions—it was raining all day—about seventy friends journeyed from all parts of the country to take part in a bowling tournament organised by a committee of the following gentlemen:—Messrs. Geo. Russell (chairman), S. Riley, Thos. Ingleby, Percy Westbrook and Thos. Newlands.

The tournament took place at Sale Hotel, near Manchester, the green being in excellent condition. Despite the rain the tournament, in which 64 took part, was thoroughly enjoyed, competition being keen and interesting throughout. The game commenced at one o'clock and finished about 8.30 p.m.

The donors of the prizes were: Messrs. John Lockett, John Williamson (Manchester China Clay Co.), T. Wilson (Porritt and Spencer), J. E. Salvesen & Co., Ltd., Berner & Nielsen, S. Riley (John Wild & Sons), and E. M. Fells (London).

A very substantial tea was served, presided over by Mr. Geo. Russell, who expressed his gratification at seeing such a good muster, notwithstanding the bad weather conditions, which might have damped the ardour of the most enthusiastic bowler. Both he and his committee were very grateful for the hearty way the tournament had been taken up, and he expressed the hope of the committee that these gatherings might be held annually—he hoped under better weather conditions. (Hear, hear.)

The Chairman presented the prizes as follows:—

1st. prize, Messrs. B. Toft and C. Travis. Runners-up, Messrs. A. Ogden and T. McLeod.

Consolation prizes: Messrs. J. A. Haynes and R. S. Taylor. Runners-up: Messrs. A. E. Stukins and W. M. Craw.

Mr. J. E. Dennis proposed a vote of thanks to the chairman of the committee for the admirable arrangements made. It had been, in his opinion, one of the most enjoyable and successful they had ever held. He was sure they all felt deeply indebted to these gentlemen for organising the tournament, and hoped the chairman's suggestion, that one be held annually, would be adopted. (Hear, hear.)

The vote was carried heartily, and the hope was generally expressed that a similar tournament would be held annually.

DR. ONNI TALAS, the late Finnish Minister at Madrid, in an interview with *Dagens Press*, gave some interesting details in regard to Finland's trade with Spain. Dr. Talas said that Finland in 1920 exported goods to Spain to the value of 20 million marks. A higher figure is given in Spanish official statistics, inasmuch as no inconsiderable quantity of Finnish goods is imported to Spain from England. Dr. Talas pointed out that paper is not among Finnish exports to Spain, the goods exported being chiefly timber-products and wood pulp. Negotiations are, however, on foot between a leading Spanish newspaper and the Finnish Association of Paper Manufacturers for a supply of newsprint.

EDWARD LLOYD, LTD.

EFFECT OF INCREASED TAXATION--THE PAPER SHORTAGE.

The thirty-first ordinary general meeting of Edward Lloyd, Ltd., was held on the 20th ult., at the head office of the company, 4-7, Salisbury Court, Fleet Street, E.C., Mr. Frank Lloyd (chairman and governing director of the company) presiding.

The Secretary (Mr. Robert B. Miller) having read the notice convening the meeting and the report of the auditors, The Chairman, in moving the adoption of the report and accounts said:—

You will see from the report which has been in your hands for the last few days that the profits for last year show a falling off of £105,236 4s. 9d. as compared with 1919.

INCREASED TAXATION.

This falling off is largely due to the increased taxation both here and in Norway and to the provision we have had to make for the necessary repairs to the west wall of Riddham Dock.

You will all know that the present time is a bad one for British trade generally, and our particular industry is feeling the result of the severe depression as acutely as most others. Under the circumstances, the directors do not feel that it would be prudent to recommend a further distribution of more than 1½ p.c. on the ordinary shares, making a total of 5 p.c. for the year.

The capitalisation of our reserves, foreshadowed at our last general meeting, was carried out last September, and our nominal capital thereby put into closer relation to the actual capital employed in the business. It is unfortunate that the present severe depression should have followed so closely the completion of that operation, but we have every confidence in being able to make a reasonable return on the increased capital when things again become more normal.

THE OUTLOOK.

With regard to 1921, the prospects are far from encouraging, the consumption of paper of all kinds having fallen off to an unparalleled extent, and the protracted coal strike has had the effect of still further curtailing the demand.

In common with other industries, we are feeling the effect of the abnormal and varying rates of exchanges, and also the reduced demand for paper in consequence of the consumption by publishers of the heavy stocks they held at the close of last year. These stocks have now been brought down to a low level, and there are signs of a revival in the near future. Owing to our conservative policy in the past we have every confidence in the company emerging in a strong position, and, as soon as the foreign exchanges have become stabilised, being able to meet competition from all sources as we have done in the past.

During the past year the men have thoroughly settled down to the three-shift system, and we have no doubt we shall soon make good the ground we have lost during the war compared with countries which were not so deeply affected as we were.

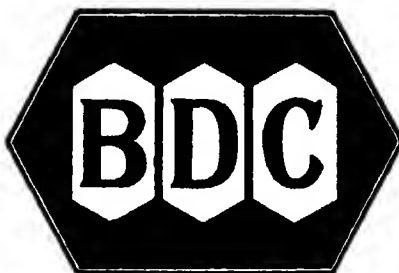
I must again thank our staff and employees, both at home and in Norway, for the excellent service they have rendered; their loyalty and goodwill are, if possible, even more appreciated in bad times than in good.

Mr. Harry Lloyd seconded the motion, which was unanimously adopted, and a final dividend of 3d. per share (free of income tax) was declared on the ordinary shares, making, with the interim dividend already paid, 5 p.c. for the year.

The retiring directors, Mr. F. H. Lloyd, Mr. W. J. Whyte and Lieut.-Colonel John R. Garwood, D.S.O., were re-elected, and Messrs. Turquand, Youngs and Co., were reappointed auditors.

The meeting concluded with a vote of thanks to the chairman, directors and staff.

BRITISH DYESTUFFS CORPORATION LIMITED



TRADE-MARK

**Manufacturers of
Coal Tar Colours
and
Intermediate Products**

**Sales Office :
70, SPRING GARDENS, MANCHESTER**

THE PAPER TRADE IN GREAT BRITAIN AND IRELAND IN 1853.

AN OLD DIRECTORY.

We have been favoured by Mr. A. W. Foster, B.A., the Secretary of the Paper-makers' Association for Great Britain and Ireland, with the opportunity of reproducing the contents of what is probably the oldest directory of the paper trade of the United Kingdom. It was presented to the trade library, which Mr. Foster has in course of formation, by Mr. Lewis Evans, D.L., J.P., the ex-President of the Association, and forms an interesting link in the history of the trade. It consists of 18 pp., each measuring 4½ ins by 3 ins., the title page being as follows:—

LIST OF PAPER MILLS.

IN
ENGLAND, SCOTLAND AND IRELAND,

WITH LISTS OF
PAPER-MAKERS, PAPER AGENTS, WHOLESALE
STATIONERS, CARD AND BOARD MAKERS.
PARCHMENT AND VELLUM MAKERS

IN
LONDON.

PRICE 1S.
POSTAGE FREE FOR THIRTEEN STAMPS.

LONDON:

PUBLISHED BY R. J. BRADSHAW, CHURCH ROW,
ALDGATE.
1853.

NO.	MAKER.	MILL.	WHERE SITUATED.
29	Christopher Phipps	Crabble	... Dover
30	William Harding	Charlton	... Dover
31	Christopher Phipps	River	... Dover
32	G. W. Knocker	Bushy Ruff	... Dover
33	Wm. Weatherly & Co.	Chartam	... Canterbury
34	John Paine	Cheriton	... Hythe
35	George Langley	Little Chart	... Charing, Kent
38	Burnham & Lonsdale	Shetwood	... Hertford
40	John Taylor, Sen.	11, John's Row, St. Luke's	Clerkenwell, London
42	Samuel Adams	Ellesmere	... Salop
44	Thomas Jones	Weston Ryn	... Oswestry
45	Hard & Son	Mansfield Street, Boro' Road	London
46	John Charles	New Mill	... Chester
47	Eliza Charles	Old Mill...	... Chester
48	Thomas Hartley	Putting	... Barnsley
49	George Harrison	Egremont	... Cumberland
55	Williams and Pawning	Kennal Vale	... Penryn
56	John Jefferis	Isle of Dogs	... Stepney
57	Robert Chadwick	King's Mill	... Kegworth, Leicester
58	Selman	Forge, Colchill	... Lichfield
59	Tanner Brothers	Cheddar	... Bath
60	Abraham Barrett	Caldbeck	... Cumberland
61	William Hastings	Kirkswald	... Penrith, Cumberl'd
62	William Garfett	Cartmeal	... Cumberland
63	George Harrison	Egremont	... Cumberland
64	Hadnan & Long	Ulverstone	... Lancashire
65	Foster	Eppersome, Southwell	Notts
66	George Simonds	Matlock...	... Derby
67	Fletcher	Siddes Lane	... Derby
68	Evans & Humpson	Durley	... Derby
69	Wm. Tempest & Co.	Peckwash	... Derby
70	Charles Harris	Trews Waer	... Exeter
72	William Birt	Witchampton	... Wimborne, Dorset
74	George Symons	Dunsley...	... Derby
75	Robert Cooke	Hett	... Durham
76	Smith & Son	Relly	... Durham
77	Smith, Anwick & Son	Moorsley Bank...	... Durham
78	James Cook	Butterly	... Durham
83	Jn. Blackwell & Co.	Ford Farm	... Sunderland
84	Smith, Anwick & Son	Langley...	... Durham
87	Henry Hall	Horton Kirby	... Dartford
88	John Barns	Kilbury...	... Buckfastleigh, Dev'n
90	William Dawton	Aller	... Newton Abbey, Devon
92	Charles Harris	Countess Wear...	Topsham, Devon
93	Charles Harris	Eswick	... Exeter
94	E. N. Tremlett	Head Wear	... Exeter
95	Rogers & Keeling	Houghton	... Grantham
97	John Milburn	Burford...	... Oxon
101	Hester Smith	Whitminster	... Stroud, Gloucester
102	C. T. Bainbridge and Son	Tess Mill	... Yarm, Yorkshire
103	William Townsend	Wincomb	... Gloucester
104	John Morton	Street Bridge	... Oldham
105	J. Woodward	Oxley	... Bradford, Yorkshire
107	Henry Ovington	Skipton	... Halifax
108	Clapham Brothers	East Morton	... Keighley, Leeds
109	John Smith	Sunnysdale	... Keighley, Leeds
110	Jno. Bracken & Son	Ingrove	... Keighley, Leeds
111	Hastings & Mellor	Bradley...	... Halifax
112	J. & T. Whiteley	Firth House	... Huddersfield
113	Jon. Bracken & Son	Dean	... Halifax
114	William Sheppard	Boothwood	... Halifax
118	James Summer	Sickle	... Haslemere
119	Wm. Warren & Sons	Bramshott	... Hants
120	Wm. Warren & Sons	Stanford	... Hants

NO.	MAKER.	MILL.	WHERE SITUATED.
4	J. C. Goodall	Gt. College Street	Camden Town, London.
5	Wm. List & Sons	Blachford	... Barnstaple
6	J. Langdel...		... Manchester
7	Tanner Brothers	Cheddar	... Bath
8	Thomas Smith	Stitchford	... Lichfield
9	R. & J. Alford	Cheddar	... Bath
10	Alfred Tipper	Horton	... Windsor, Bucks
11	William Hall	Rickford	... Burrington, Som'set
13	C. Potter & Co.	Hollins, Darwen	Blackburn
14	William Jones	Chaps	... Marshfield, Bath
15	Benjamin Holman	Lee Mill...	... Plympton, Devon
16	Daniel Beazer	Longdean	... Bath
19	William Perrin	Widderham	... Corsham, Wilts
21	Cross	Catherine	... Bath
22	William Collins	Yardley...	... Northampton
23	James Whittaker	Standon	... Ware, Herts
24	E. & F. Towgood	St. Neots	... Huntingdon
25	Edward Towgood	Sawston	... Cambridge
27	Charles Ashdown	Buckland	... Dover

THOS. HARDMAN & SONS

LIMITED.

**FERNHILL MILLS,
Bury, LANCASHIRE.**

ESTABLISHED 1836.

London Office : FLEET HOUSE,
17 FARRINGDON AVENUE, E.C.

Telegrams { "Felts, Bury."
 "Unbend, London."

Telephones { No. 41 Bury.
 No. 82 Holborn.

**FELTS FOR
FAST RUNNING
A SPECIALITY.**

ALSO MAKERS OF
EVERY DESCRIPTION OF
:: CLOTHS ::
Used for Machinery Purposes.

**COUCH ROLL COVERS,
SECOND PRESS FELTS,
WET AND DRY FELTS,
BAG FLANNELS, &c., &c.**

BLANKETS, LAPPINGS, &c., **FOR PAPER STAINERS,
PRINTERS AND LITHOGRAPHERS.**

NO.	MAKER.	MILL.	WHERE SITUATED.	NO.	MAKER.	MILL.	WHERE SITUATED.
121	Thomas Dunster ...	48, Upper Thames Street	London	213	Jas. Greaves & Co.	Millbank	Warrington
122	Wm. Warren & Sons	Tower Barford...	Haselton, Hants	214	Richard Mann & Co.	Thetford	Norfolk
123	Pewtress & Co. ...	Sping ...	Midhurst, Sussex	216	Harvey ...	Millbank	Haverfordwest
126	Ingham & Co. ...	Shuttleworth ...	Bury, Lancashire	217	Johnson & Murray	Millbank	Reepham, Norfolk
127	Thomas Edwards			218	Richard Munn & Co.	Lyng ...	Norfolk
	Pandy ...		Chepstow	219	T. Wrigley & Son...	Bridge Hall	Bury
128	John Reece ...	Itton Court	Chepstow	220	Ibbotson & Lang-	ford ...	Over Darwen
129	Charles White ...	Stratford	Essex	221	Coop & Holt	Woolfold	Bury
130	William M'Murray	Esher ...	Surrey	222	William Broadbent	Creams	Bury
131	Jones and Brown	Goodbehind	Chepstow	223	John Smith	Throstle Nest	Manchester
132	W. & T. Edwards...	Little ...	Chepstow	224	Robert Slack	Bank Vale	Near Stockport
133	Castle & Co. ...	Lady ...	Chepstow	225	J. & W. Hall	Diggle ...	Saddleworth
134	Castle & Co. ...	Lark ...	Chepstow	227	Samuel Melbourne	Widford	Burford, Oxon
135	John Reece	Lark ...	Chepstow	229	J. B. Palmer	Quenington	Fairford, Gloucester
136	Samuel Matthews...	Whitebrook	Monmouth	230	William J. Dowding	Calstone, Calne	Wilts.
130	W. & M. Welch	Whitebrook	Monmouth	231	Mrs. Wise	Rush ...	Northampton
140	James Stevens	Rodmore	Hereford	232	Samuel Mitchell	Cotton ...	Northampton
141	J. & R. Morris	Rowley ...	Hereford	234	J. Annandale and		
142	Richard Munn	Lynn ...	Lynn		Sons ...	Lintzford	Newcastle
144	Bishop & Blundell	Old Fish St. Hill	London	235	William Hamerton	Peres ...	Oundle,
146	Simmonds ...	Dansby	Wichsworth				Northampton
147	John Johnson	Triswick	Hereford	236	Robert N. Newcomb	Wansford	Northampton
148	Wm. Sommerville	Golden Valley	Bristol	237	H. Wheeler, sen.	Coppice Row,	
149	James Langsdale	Blake Street	Manchester			Clerkenwell	London
150	John Gladwin	Ecclesfield	Yorkshire	238	John Telford	Dilston	Newcastle
151	John Kidmore	Low Street	Macclesfield	241	John Rymer & Co.	Tyne ...	Gateshead
152	Hall and T. Lambert	Cleobury	Bewdley	242	J. Annandale and		
153	Thomas Holden	Heap Bridge	Bury and		Sons ...	Shotley Grove	Gateshead
			Manchester	243	Wm. Telford & Sons	Urpeth ...	Gateshead
155	John Brindley	Baggot	Birmingham	244	J. Town	Goose-Eyc	Keighley
156	Smithson and May-			245	N. Grace & Co.	Scotswood	Newcastle
	field ...	Stepney...	Hull	246	Taylor	Sandy Lane	Nottingham
157	John Evans	Bradford Street	Birmingham	247	Alfred	Mansfield	Nottingham
158	William Gater	West End	Southampton	248	Ann Crawford	Warden	Hexham
160	Elgin & Roberts	Kendal ...	Westmorland	250	John & Ann Hope...	Pollygrove	Macclesfield
161	Richard Batt	Waterhouse	Milnthorp	251	Goostrey & Hulme	Cheddleton	Stratford
162	James Cropper	Cowen Head	Kendal	252	Wm. Sheldermine...	Cuddington	Northwich
163	John Jackson	Oakenclough	Garstang	253	Delane, Magney and		
164	William Bateson	Mathead	Garstang		Co. ...	Taverham	Northwich
165	James Cropper	Burnside	Kendal	254	Lewis	Little Luton	Birmingham
166	Thomas H. Parke...	Withuedfold	Chorley, Lancs.	255	Burgeis	Bungay	Northwich
167	John Roes	Lewdin	Barnsley	256	Edward Robinson...	Pershore	Worcester
168	William Wright	Hirst ...	Bingley, Leeds	257	William Emberline	Deddington	Oxon
169	James Baldwin	Sherborne	Birmingham	258	William Sellors	Newton	Banbury, Oxon
170	Wearmouth Paper			262	Fowler	Weirs ...	Witney, Oxon
	M. Co. ...	Wearmouth	Sunderland	263	Fowler	Hinckley	Witney, Oxon
171	J. C. Oddie	Cut-side	Leeds	266	Edward A. Cox	Dannescumb	Plymouth
172	James Martin	West Woodside	Leeds	267	Turner & Son	Turkenhay	Totnes
173	James Martin	Woodmill	Leeds	269	Geo. S. Lee	Tamar ...	Callington,
174	P. & W. Garnett	Wharfeside,					Plymouth
		Otley	Leeds	270	Benjamin Holman	Ivy Bridge	Ermington, Devon
175	M. Nicholson	Pool ...	Leeds	271	Pegg & Nash	Eggars Green	Maidenhead
176	John Neill & Co.	Dock Street	Leeds	273	T. Hunt	Sheplake	Henley-on-Thames
176	J. C. Oddie	Cut Side	Leeds	276	W. & J. Wright	Great Marlow	Bucks.
177	D. & W. Watson	Woodside	Leeds	277	W. & J. Wright	Great Marlow	Bucks.
181	John Evans	Gt. Hampson		278	Mrs. Lane	Thorney	West Drayton
		Street	Birmingham	279	Percy Ibbotson	Poyle ...	Colnbrook, Reading
187	Frederick Jenks	Legge Street	Birmingham	280	Charles West	Sheffield	Reading
188	J. & W. Demeza			281	T. Healey	Horton ...	Colnbrook
	and Co. ...	Castle ...	Tamworth	282	Chas. Venables & Co.	Taplow Mills	Bucks.
189	Geo. & Jas. Souter	Gt. Russell Street	Birmingham	283	George Venables	Cookham	Berks.
191	William Ackland	Stowford	Ivy Bridge, Devon	284	Caroline Angel	Bourne End	Bucks.
193	Charles Stephens	Green Field	Holywell, Wales	285	Thomas Lemon	Headsor	Bucks.
194	Blythe	Regent Row	Birmingham	286	William Pegg	Bourne End	Marlow, Bucks.
195	Chas. Venables, jun.	Cheddon P. Works	Maidenhead, Berks.	288	Venables & Co.	Princes ...	Woburn
196	E. Fisher & Co.	Tamworth	Stafford	289	Weeden & Sons	Temple, etc.	Marlow, Bucks.
197	Thomas Penn	Coventry Road	Birmingham	290	Richard Ibbotson...	Wyrardisbury	Staines
198	Richard Davis	St. Saviours	Bermondsey,	291	John Higgs	Newbury	Berks.
			London	292	T. Healey	Bagnor ...	Newberry
200	D. Huband	Caln ...	Bath	293	Edward Shaw	Colthrop	Thatcham, Berks.
201	Hen. Cartwright	Ordsall ...	Retford	294	William Slade	Hagbourn	Reading
202	Nelson & Watson...	East Retford	Nottingham	295	William Emberlin...	Southmorton	Reading
204	Wigglesworth & Co.	Louth ...	Lincoln	296	Alfred Towgood	Arboursfield	Reading
205	Edward Smith	Springside	Raisen, Lincoln	297	Thomas Gallon	Fellingsshore	Gateshead
206	Timothy Healey	Fullwell...	Twickenham	298	Balston & Co.	Springfield	Maidstone
207	Charles Turner & Co.	Springside	Sharples, Bolton	299	Thos. Weedon & Co.	Temple ...	Marlow, Bucks.
208	Thomas Crook	Hallith Wood	Bolton	300	Hollingworth Bros.	Turkey ...	Maidstone
209	J. & T. B. Crompton	Farmworth	Bolton	301	Allnutt & Son	Little Frey	Maidstone
211	J. & T. B. Crompton	Worthington	Wigan	303	H. Gurney & Son...	Loose ...	Maidstone
212	James Mercer, jun.	Eccleston	Prescot	304	Hollingworth Bros.	Loose ...	Maidstone

ESTABLISHED 1790

C. H. JOHNSON & SONS, L^{TD.},**MANCHESTER WIRE WORKS,****Smedley Road, MANCHESTER, N.****Paper Machine Wires of
our "SPECIAL" METAL.**

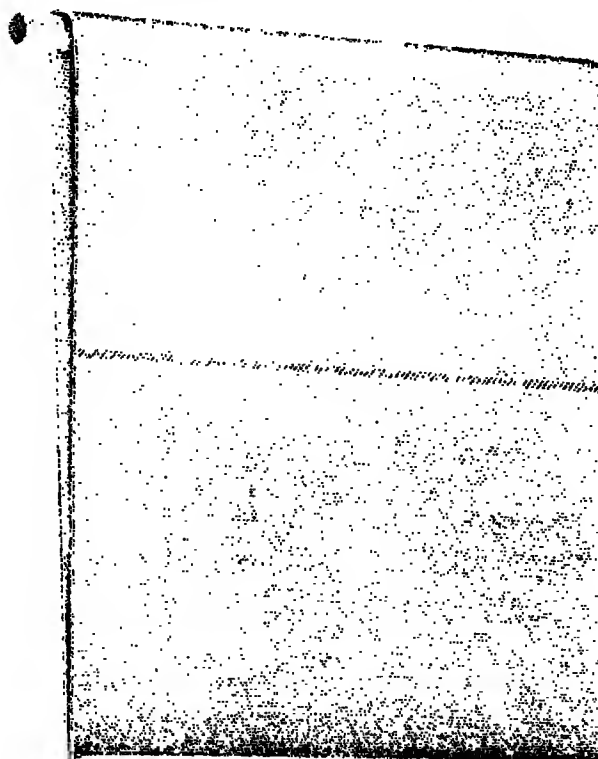
Specialities :
FAST RUNNING
NEWS WIRES.

:: ::

EXTRA WIDE
WIRES.

:: ::

EXTRA
STRONG
TWISTED
WARP WIRES.



Specialities :
80, 90 and 100
mesh WIRES for
Tissues and other
fine papers. :: ::

:: ::

TRIPLE
WARP
WIRES.

WE ARE NOTED FOR our fine mesh Machine Wires with extra fine seams.
Dandy Rolls of our hollow construction, with or without spray pipe
for eliminating "belling."

Cylinder Faces and Backing-Wires, and specially coil-drawn Copper
or Phosphor Bronze Worming Wires.

Cylinders wormed and covered at the mill at short notice.

WE MAKE A SPECIAL STUDY OF EACH MILL'S
INDIVIDUAL REQUIREMENTS IN ANY OF THE ABOVE.

NO.	MAKER.	MILL.	WHERE SITUATED.	NO.	MAKER.	MILL.	WHERE SITUATED.
305	Hollingworth Bros.	Otham ..	Maidstone	405	James Smith	Hamper ..	Watford
306	Henley ...	Eyechem	Lentham, Kent	408	Furlong ...	York Street ..	Bristol
307	T. H. Saunders	Phoenix	Dartford	409	G. Austin ...	Lower Bledlow.	Risborough, Bedford
308	Allnutt & Son	Great Ivy	Maidstone	410	G. Austin ...	Lower Chelow ...	Risborough
310	Samuel Green	Hayle ...	Maidstone	411	T. H. Saunders	Rye ...	High Wycombe
311	Allnutt & Son	Tovil ...	Maidstone	413	T. H. Saunders	Lower Marsh ...	Wycombe, Bucks.
312	Allnutt & Son	Tovil ...	Maidstone	414	Henry Wheeler	Lower Marsh ...	Wycombe, Bucks.
313	T. H. & G. F. Bus-	bridge...	Rast Malling ...	416	Alfred Lane	Bowden Mill ...	Wycombe
314	T. H. & G. F. Bus-	bridge...	East Malling ...	417	Richard Plaistow	Loudwater ...	Bucks.
315	T. H. & G. F. Bus-	bridge...	East Malling ...	424	Chas. Venables, jun.	Soho Mills ...	Wooburn, Bucks.
316	H. A. Wildes	Snodland ...	Malling, Kent	425	G. H. & F. E. Venables	Wooburn ...	Beaconsfield, Bucks.
317	Fussell ...	Ditton ...	Kent	426	F. G. Spicer	Glory Moore ...	Beaconsfield, Bucks.
318	George Mason	New Mill ...	Maidstone	427	F. G. Spicer	Loudwater ...	Beaconsfield, Bucks.
319	Thomas Compere	Forstall ...	Maidstone	428	Augustus Gaviller...	—	Beaconsfield, Bucks.
322	Rhodes & Meek	Hampton ...	Tunbridge, Kent	430	Richard Plaistow	Loudwater ...	Bucks.
323	Delmyne ...	Roughway ...	Worham	431	John Dewdney	Heale ...	Bradninch, Devon
324	George Wilnot	Shoreham ...	Sevenoaks, Kent	433	J. Dickinson & Co.	Backworth ...	Richmond
325	T. H. Saunders	Sunbridge ...	Sevenoaks, Kent	434	Ashbrook ...	Mill End ...	Surrey
327	William Joynton	St. Mary Cray ...	Kent	435	Ingram ...	Southwater ...	Herts
328	Henry Woodfull	Foot's Cray ...	Kent	436	George Austin	Solesbridge ...	Uxbridge
330	J. W. & C. Fellows	Lynsford ...	Kent	437	Alfred Curtis	Surratt ...	Chesham
332	T. H. Saunders	Darenth ...	Dartford	439	D. & R. Mercer	West Drayton ...	Middlesex
333	John Ford	Charlestown ...	Glossop, Derby	440	Parry & Sons	Ilkenny ...	Crickhowell, Wales
334	Edward Smith	Sittingbourne ...	Kent	441	West ...	Pandy ...	Swansea, Wales
335	Charles Fuller	Hurstbourne	Priors Andover	444	John R. Jones	Wheeler...	Correy, Nth Wales
336	R. J. Bunc	Clatford ...	Andover	445	E. Muthers & Son...	Perthillyd	North Wales
337	W. S. Portall	Laverstoke ...	Salisbury	446	Benjamin Harvey	Haverfordwest...	Pembrok, Wales
338	Spicer, Bros.	Loverstone ...	Alton, Isle of Wight	447	Brindley ...	—	Birmingham
340	Charles Rhodes	Bearstead Spot...	Bucks.	448	David Charles	Carinathen ...	Wales
341	William Brookman	Test ...	Romsey	449	John Mills	Longmore ...	Cullompton, Devon
342	Thomas Westcott...	Abbey ...	Romsey	450	H. Mills	Longmore ...	Cullompton, Devon
343	William Straddling	Downton ...	Salisbury	452	C. Matthews & Co.	Langford ...	Bradninch, Exeter
344	J. W. Towards	Bemerton ...	Salisbury	453	C. Matthews & Co.	Kenham ...	Exeter
345	B. Southby	Bullford ...	Amersbury, Wilts.	456	C. Matthews & Co.	Bridge Mills ...	Broadcliff, Exeter
346	J. Britain	Tibberton ...	Newport, Salop	457	W. & R. Dewdney	Stoke, Canon ...	Exeter
348	Harding ...	Patchen ...	Shifnal, Salop	458	Richard Matthews	Muxham ...	Exeter
352	George Wilkinson...	Friars ...	Tuckhill, Sheffield	459	W. & R. Dewdney	Stoke, Canon ...	Exeter
354	J. W. & B. Denton	Dumflask ...	Sheffield	460	Scholefield	Charde Lane ...	Ashton, Lancashire
355	Thompson & Co.	Owlcrston ...	Sheffield	462	Wausborough & Co.	St. Decumans ...	Somerset
356	Matthew Ibbotson	Revilin ...	Sheffield	463	James Saunders	Northwick ...	Bristol
363	Samuel Datton	Olday ...	Sheffield	464	Vasey & Co.	Honiton ...	Devon
364	Jno. Williams & Co.	Lower Wookey...	Somerset	465	George Cooper	Umborne ...	Colyton, Exeter
365	Henry Coles	Henley ...	Shepton, Somerset	466	H. Belierby & Son	Ellerburn ...	Pickering, Yorkshire
366	Hodgkinson & Co.	Wookey Hole	Wells	467	Bainbridge & Son	Hutton Rudby	Stokesley, Yorkshire
367	Mary Snelgrove	Dulcotts ...	Wells	470	William Chattaway	Grange ...	Warwick
368	Charles Gumm	Dulcotts ...	Wells	471	J. Hughes & Son	Whitehall ...	Chapel-en-le-Prith
369	Hope ...	Winkhill ...	Cheadle, Stafford	472	Butterfield & Smith	Freedom ...	Bps. Monkton, York
370	D. B. Smith	Winkhill ...	Cheadle	473	John Farr ...	Bromsgrove ...	Worcester
371	George Webb	Haywood ...	Cheadle	474	Evans ...	Wichbold ...	Droitwich
372	Thomas James	Ilurcott...	Kidderminster	475	James Jones	Gunnux... ..	Bromsgrove
373	Henry Harris	Cottonspring	Bridgnorth	476	Hughes & Walker	Sheep Street	Birmingham
374	H. B. Bayley & Co.	Woking ...	Surrey	478	Ancott ...	Springfield	Manchester
377	Stamps & Finch	Alton ...	Cheadle, Stafford	479	W. R. Galpine	Thorpe ...	Tadcaster
378	William Hurry	Melford Clare	Suffolk	480	James Simmons	Shooter ...	Haslemere
379	Matthew Blythe	Bramford ...	Ipswich	482	James Crompton	Collyhurst ...	Manchester
380	Easton & Amos	Wandsworth	Surrey	484	Perken ...	Everleith ...	Shifnal, Salop
382	Thomas Sweetapple	Catteshall	Godalming	485	Henry Coles	Stokebottom	Shepton, Somerset
384	Pewtress & Co.	Fashing...	Godalming	489	Peter Warren	Stratford ...	Essex
385	Pewtress & Co.	Stoke ...	Guildford	490	Gratton & Co.	Ashton Juxta	Birmingham
387	Jane Magnay	Chilworth Pond	Guildford	491	John Lamb	Holborn Street...	Newcastle
388	Parry & Sons	Golden Valley	Llangroiney	492	Christopher	Southwark ...	London
389	Richard Turner	Chafford ...	Tunbridge	494	Royston ...	Royland ...	Macclesfield
393	R. & T. Blackwell...	Hinckden ...	Cranbrook, Kent	495	John Wade	Ludlow ...	Salop
394	John Blackwell	Ockley ...	Cranbrook, Kent	496	John Mugeridge	Carshalton ...	Surrey
395	J. L. & J. Turnbull	Holywell Mount	Finsbury, London	498	Brindley ...	Cnberland	Ilchfield
396	Magnay & Co.	Fly ...	Rickmansworth, Herts.	499	Wm. Rodwell & Co.	Ipswich ...	Suffolk
397	A. R. Bancks & Co.	Wearhouse	Chesham	500	Knowles & Crook...	Eagley Bridge	Nr. Bolton
398	John Elliott	Bees ...	Chesham	501	Roberts & Mathers	Afonwen ...	North Wales
399	John Elliott	Bees ...	Chesham	502	J. & R. Whiteley	New ...	Whitby
400	Hayes & Co.	Two Waters	Chesham	503	J. Hughes & Son	Whitehall	Chapel-en-le-Prith
401	Hayes & Co.	Two Waters	Chesham	506	John Taylor, jun...	83, Old Street	London
402	J. Dickinson & Co.	Nash ...	Hempstead, Uxbridge	507	John Aston	Heaton ...	Stockport
403	J. Dickinson	Apsley ...	Hempstead	509	G. H. & E. F. Venables	Clapton Mill ...	H. Wycombe, Berks.
404	S. Clarke	Pickford	St. Alban's, Bedford	510	Hatcher ...	St. Luke's ...	London
				511	William Roberts	Farrington Street	London
				512	Jefferis & Co.	Gt. Guildford St.	London
				514	H. R. Sabine	Poppins Ct., Fleet	Street London

THE Kellner-Partington Paper Pulp Co., Ltd.

(A/S Borregaard, Christiania, Norway.)

Owning and Controlling

BORREGAARD MILLS, NORWAY.

MÖLNBACKA MILLS, SWEDEN.

And also Mills in:

AUSTRIA.

UNITED STATES OF AMERICA.

Borregaard Bank,

Glazed Imitation Parchment,

Glazed Japan Simili,

Glazed Native Account Book Paper,

Printings, "P" pure and "N" mechanical, S/C and M.F.

M. G. White Poster.

Registered Office: —

**26, Cannon Street,
Manchester.**

Telegraphic Address.

"SYLVESTUS, MANCHESTER."

*Telephone: —*CITY 5509

London Office: —

**Blackfriars House,
New Bridge Street,
E.C.4.**

Telegraphic Address: —

"BORREGAARD, FLEET, LONDON."

*Telephone: —*CITY 5283.

Also:—

16, Westmoreland Street, Dublin.

Telegraphic Address:

"BORREGAARD, DUBLIN."

NO.	MAKER.	MILL.	WHERE SITUATED.
516	C. Matthews & Co.	Huxham	Exeter
517	William Brindley	Cone	Sydney, Hereford
518	Joseph Clarke	Diffield	Derby
519	Reece & Co.	Cone	Sydney, Hereford
520	J. Warrillow		Birmingham
521	W. & W. Mangnall	Springfield	Bolton
527	J. & E. Norris	Sutton	Abingdon
528	J. Reynolds & Son	Vere Street, Clare	
		Market	London
529	Thomas Jones	Mordd	Oswestry, Cheshire
530	W. Fussell	Sherborne	Dorset
531	William Scales	Whitehill	Chester-le-Street, Durham
534	Hunt and Sons	Webber Row	London
535	G. Edge	Linch Street	Birmingham
539	Fletcher, Falconer and Co.	Scotswood	Newcastle
541	Hatchett	Spitalfields	London
542	W. Bentall	Grinstead Green	Halstead, Essex
548	Cockburn & Co.	Haughton	Hexham
550	Jellyman	Downton	Wilts
551	J. H. & R. C. Rawlins	Hope	Wrexham
552	Wm. List & Sons	Playford	Barnstaple
554	Crompton	Mill Lane	Birmingham
558	James Simmonds	Sholter	Haslemere, Hants
559	James Simmonds		Nottingham
561	Hastings & Mellor	Hunslet	Leeds
562	Stockdale	Worthington	Northwich
563	R. W. Macdonnell	Bitton	Bristol
569	Ritten & Graves	Dartmore	Birmingham
570	John Taylor	Old St., St. Luke's	London
572	Henry Cooke	Richmond	Yorkshire
575	Wagstaff	Glossop	Ashton, Manchester
576	William Wiggins	Hawley	Dartford
581	Bennet	Tunlee	Ashton, Manchester
582	Robert Chorley	West Ashling	Chichester
587	M. A. Nush	Paul's Cray	Kent
601	Pearson & Holden	Brantwaite	Workington
606	William Kimberline	Deddington	Oxon
613	Alex. Thompson	Tirley	Chester
614	J. Dickinson & Co.	Home Park	Birmingham
616	W. Parry & Sons	Golden Grove	Crickhowell, Wales
619	William Long	L'r Sherringham	Lynn, Norfolk
621	H. J. & W. Swanns	Sandford Ferry	Oxon
627	Wright	Woodbourne	Beaconsfield
630	George Brittain	Ivyhouse	Hanley, Staffordshire
631	A. Williams	Slaughterford	Stafford
633	Evand, Adlard & Co.	Postlip	Winchcomb, Gloucester
636	James Gray	Handforth	Macclesfield
642	William Williams	Upper Wookey	Chepstow
661	Hall & T. Lambert	Clebury	Bewdley
667	Rymer & Co.	Tyne	Gateshead
671	James Hulme	Haughton	Manchester
674	W. & J. Wright	Great Marlow	Bucks.
677	Robert Hughes	Lomax Bank	Bolton
682	Robert Crompton	Kersley	Bolton
691	Cooper & Phillips	Shoe Lane	London
693	J. Dickinson & Co.	Croxley	Watford
694	Richard Turner	Tuckenhay	Tothes, Devon

PAPER MAKERS AND WAREHOUSES IN LONDON.

† Marble Paper Makers. ‡ Coloured Paper Makers.

|| Fancy Paper Makers.

Arbuthnot and M'Combie, 48, Upper Thames Street
 ||Atkin, John, 46, Barbican, and 149a, Old Street
 Ashton, G. H., 7, River Street, Myddleton Square
 Bishop, M., 30, Queen Street, Cheapside
 Bretnall, & Co. 24, Huntley Street, Tottenham Court Road
 Brind, Charles, 17, Little Carter Lane, Doctors' Commons
 †Brown, John (Marble), 90, Hoxton Old Town
 Brown and King, 230, Upper Thames Street
 ||Bull and Vinen, 2, Regent Street, City Road
 Carter, S. (Gold and Silver), 1, Bray's Place, Islington
 Cooper, Williams & Co., West Smithfield
 Cowan, A., and Sons, 45, Upper Thames Street
 Crompton, J., and T. B., 14, Earl Street, Blackfriars
 Cole, J., 28, Thayer Street, Manchester Square
 Dickinson, John, 4, Furnival's Inn, Holborn
 Dickinson & Co., Old Bailey
 †Dickins, John W., 80, Paul Street, Finsbury

Dowding, William J., 12, New Weston Street
 †Fitch, William, 49, Watling Street, and 20, Fish St., City
 Gibbon and Roe, 17, Walbrook
 Grosvenor, Chaster & Co., Cannon Street, West
 Hart and Son, Mansfield Street, Borough Road
 Herring, Dewick, and Hardy, 31, Walbrook
 Hodgkinson and Co., Upper Thames Street
 Holscamp, Frederick, Queenhithe
 †Harley, John, 5, Racquet Court, Fleet Street
 ||Heard, J. G., 145, Upper White Cross Street
 Inray, James, 3, Old Fish Street Hill
 Jefferis and Co., Grove, Great Guildford Street
 Kirkman and Thackray, 5, Old Fish Street
 Konsquet, Isaac, Half Moon Inn Yard, High Street, Borough
 Long, C., Bishop's Court, Old Bailey
 Littlewood, Samuel, 185, Upper Thames Street
 Magnay and Co., 181, Upper Thames Street, and 11, College Hill
 M'Murray, Wm., 38, Queen Street, Cheapside
 Martin, James, 30, Queen Street, Cheapside
 †Martin, Thomas, 60, Old Street, St. Luke's
 Matly, R., Paul's Wharf, Upper Thames Street
 Macham, Henry, 237, Borough High Street
 Morgan, C. and Co., Cannon Street, West
 Muggerridge, Sprague and Co., 61, Queen Street
 Norris, John T., 138, Aldersgate Street
 ||Nanslauer and Co., J., 20, Bargeyard Chambers
 New, Henry, 185, Upper Thames Street
 ||Newbury, James and Richard (Gold and Silver), 2 and 3, Hemlock Court, Carey Street
 Norris, James, 207, Upper Thames Street
 ||Parker, Phillip and P., 181, Long Lane, Hermondsey
 Penn, Thomas and Co., 6, Bride Court, New Bridge Street
 Pewtress, Low and Co., 30, Gracechurch Street
 Pim, George Bedford, 18, Bread Street Hill, City
 Pirie, Alexander and Sons, 42, Upper Thames Street
 †Powell, Edward and William, 10, Wilson Street, Finsbury
 Potter, Charles H., and Edwin, 29, Bridge Row, Cannon St.
 Preston, J., 40, Maiden Lane, Covent Garden
 Rhodes, Charles, Paul's Wharf, Upper Thames Street
 Summer, G. J., Tabernacle Walk, Finsbury
 T. Healey & Co., Queenhithe
 Saunders, T. and E., Cannon Street, West
 Saunders, Thos. Harry (Bank Note), Cannon Street
 Scott, Drennan and Co., 38, Upper Thames Street
 Scott, Andrew, 39, Upper Thames Street
 Shaw, Edmund and Son, 124, Fenchurch Street.
 †Stacy, Robert, 3 and 4, New Inn Yard, and 150, Shoreditch High Street
 Spalding and Hodge, 145, Drury Lane
 Spicer Brothers, Bridge Street, Blackfriars
 Templeton, Allen, 24, Basing Lane, City
 Trotter and Son (Alexander M. Peebles, Agent), 8, Cloak Lane, Cheapside
 Venables, Wilson and Tyler, 17, Queenhithe
 Vint, James, Dowgate Dock, Upper Thames Street
 Waterlow and Sons, London Wall
 Warren, Peter, Stratford, Essex
 Wrigley, James, and Son, 5, Hudge Row, Cannon Street
 †Wheeler, Henry, 8, Redcross Street, Borough
 Wiggins, Teape and Co., Aldgate
 Wells, Charles T., 6, Bouverie Street, Fleet Street

CARD AND CARDBOARD MAKERS.

d Playing Card Makers. f Paper Glossers and Pressers
 e Pasteboard Makers. g Drawing-board Makers.
 Banks, Brothers, (A. and R. O.), 20, Piccadilly
 eBishop and Blundell, 1, Old Fish Street Hill
 Davies, William, 49, Wynyatt Street, Goswell Road.
 Davis, J., 192, Blackfriars Road
 dDe La Rue, Thomas, and Co., 110, Bunhill Row
 Fairburn, Mrs. H., 59, Compton Street, Clerkenwell
 Goater, Alfred, 31, Wilson Street, Finsbury
 defGoodall, J. C., 16, Great College Street, and 30, Great Pulteney Street, Camden Town.
 dHardy, James, and Sons, 27, St. Paul's Churchyard
 Heard, John G., 143, Upper Whitecross Street
 Jones, James, 120, Bethnal Green Road
 Morrison, K. W., 15, King's Road, St. Pancras
 Martin, James, 30, Queen Street, Cheapside

Oliver and Son, 12, New Montague Street, Brick Lane
 Spitalfields
 Parlaman, W., 13, Penton Street, Pentonville
 Penn, T. and Co., 6, Bride Street, New Bridge Street,
 Blackfriars
 Penny, Henry (Agent), 11, Old Bailey
 Pope, Henry, 22, Budge Row
 dfg Reynolds, Joseph and Sons, 27, Vere Street, Clare Market
 Roberts, William, 8, Turnagain Lane, Farringdon Street
 gRock Brothers and Payne, 11, Walbrook
 gRoyston, James and Co., 1, Aldermanbury
 Summons, C., 7, Cavendish Street, New North Road
 dfg Sabine, H. R., 3, Popplin's Court, Fleet Street
 eTaylor, John, 11, John's-row, St. Luke's.
 eTaylor, John, jun., 83, Old Street, St. Luke's
 dfg Turnbull, James L., and J., Holy Well Mount
 eVincent, Isaac, 5, Little St. Thomas Apostle
 eWheeler, H., Sen., 14, Coppice Row, Clerkenwell
 eWheeler, Henry, 82, Redcross Street, Borough.
 dWhitaker, Robert, 13, Little Britain
 Windsor, John (enamelled), 23, Coppice Row, Clerkenwell
 elg Wooley, Thomas, and Co., 210, High Holborn

AGENTS FOR PAPER-MAKERS.

Brown, G., Chamberlain's Wharf, Tooley Street
 Dunster, Thomas, 48, Upper Thames Street
 Morgan, George, Brook's Wharf, Upper Thames Street
 Peebles, A. M., 8, Cloak Lane
 Pollock, John, 12, Great St. Thomas Apostle
 Rymill, J. W. and Co., Paul's Wharf, Upper Thames Street
 Templeton, Allen, 24, Basing Lane

PARCHMENT AND VELLUM MAKERS.

Collins, George, 18, Cross Street, Bermondsey
 Cooper and Phillips, 5, Shoe Lane
 Crook, Isaac, 117, Bermondsey Street
 Cripps and Starkey, 24, Skinner Street
 Evans, Thomas, and Son, 10, Silver Street, Wood Street
 Garner, M. and T., 25, John Street, Old Kent Road
 Gibbs, G. and Son, 40, Princes Street, Stamford Street
 Hawker, George, 37, Gray's Inn Lane
 Hepburn, William H., 7, Paneras Lane
 Hooper, Stephen, 45, Fleet Street
 Hulbert, Henry, 3, Grange Walk, Bermondsey
 Lever, John and Joseph, 134, Size Lane and Neate Street,
 Colnour Road, Old Kent Road
 Lloyd, Thomas, Wine Office Court, Fleet Street
 Loosley, Joseph, Neate Street, Colnour Road
 Loosley, Thomas, 3, Field's Place, Lock's Fields
 Smith, J., 40, Long Acre, and Gloucester Row, Walworth
 Road
 Sparks, C., 22, Cross Street, Great George Street, Bermond-
 sey
 Tomlin, William, Pleasant Row, Old Kent Road
 Warren, Henry, Russel Place, Bermondsey
 Wright, Charles and Co., 144, Albion Buildings

LIST OF PAPER MILLS IN SCOTLAND.

NO.	MAKER	MILL	WHERE SITUATED
5	Adam Robertson	New Calder	Mid-Calder
6	Robert Craig	Caldersruix	Airdrie
7	Alex. Pirie & Sons	Stonywood	Aberdeen
9	Arbuthnot and M'Combie	Coulter	Aberdeen
10	R. Tullis & Co.	Anchmuty	Markinch
11	Wm. Innes & Co.	Levenbank	Leslie
12	Bullionfield Paper Co.	Bullionfield	Dundee
13	R. Tullis & Co.	Tothes	Markinch
14	Janet Grieve & Co.	Balbirnie	Markinch
15	John Hill & Co.	Balerno Bank Mills	Edinburgh
17	John Mackintosh	Strath Mill, Gals- ton	Kilmarnock
18	R. & J. Couper	Millholm, Cath- cart	Glasgow
19	S. Lindsey	Cathcart	Glasgow
20	Robert Craig & Co.	New Battle	Dalkeith
21	Ed. Collins & Son	Dalmuir	Dumbartonshire
23	Archd. Somerville	Kevoek Mill	Lasswade
25	W. Somerville & Son	Dalmore	Pennicuik

NO.	MAKER	MILL	WHERE SITUATED.
26	William Tod, Jun.	St. Leonards	Lasswade
27	Alex. Cowan & Sons	Low Mill	Penicuik
28	A. Annandale & Son	Polton Mill	Lasswade
29	Cameron & Co.	Springfield	Loanhead
30	Scott & Drennan	Lock Mill	Linlithgow
31	James Brown & Co.	Esk Mill	Pennicuik
32	John Milne	New Mill	West Calder
33	A. Cowan & Sons	Bank Mill	Pennicuik
36	Innes & Martin	Millbank	Ayton, Berkshire
37	J. M'Arthur & Co.	Dalsholm	Glasgow
38	H. Henderson & Co.	Airthrey	Bridge of Allan, Stirling
39	A. Duncan & Sons	Herbertshire	Denny
41	John Macrobie	Carron Grove	Denny
45	William Lewis	Dalbentlie	Castledouglas
48	Christian Robertson	Grange Mill	Mid-Calder
51	John Hill & Co.	Balerno	Currie
52	James Durlum	Balerno Mill	Currie
53	Henry Bruce	Kenleith	Currie
54	Robert Martin	Woodhall	Juniper Green, Colinton
55	Richard Wallace	West Mill	Colinton, Edinburgh
56	D. Chambers & Co.	Kate's Mill	Slafeford, Edinburgh
57	Wm. Cadell & Co.	Cramond	Edinburgh
59	Innes & Martin	Bleachfield	Ayton, Berkshire
60	A. Cowan & Sons	Valleyfield	Pennicuik
61	Young, Trotter & Son	Chirnside Bridge	Chirnside, Berkshire
62	John Craig, Jun.	Moffat Mill	Airdrie
63	William Davidson	Waterton	Aberdeen
64	William Davidson	Waterton	Aberdeen
65	Daniel Ferguson	Mossie Mill	Colinton, Edinburgh
66	William Davidson	Maggie Moss	Aberdeen
67	John Luke	Crook of Devon	Kilross
72		Townhead	Kilsyth, Stirling- shire
73	James Gray & Co.	Overton	Greenock
77	David Craig & Co.	Portobello	Edinburgh
78	D. H. Lusk	Woodside	Glasgow
79	Ed. Collins & Son	Kelvindale	Glasgow

LIST OF PAPER MILLS IN IRELAND.

NO.	MAKER	MILL	WHERE SITUATED
1	Givan	Roan	Armagh
2	Michael McDonnell	Lucan	Dublin
4	Archer & Sons	Ballyclare	Antrim
5	Patrick Eccles	Follands	Coleraine
7	Perguson & Co.	Millrow	Antrim
8	Perguson & Co.	Millrow	Antrim
9	William Chain	Boghead	Antrim
10	William Phair	Brooklodge	Cork
11	William Phair	Brooklodge	Cork
12	William Phair	Butlerstown	Cork
13	Emily Gould	Caraghene	Cork
14	Alfred Greer & Co.	Dipsev	Cork
18	T. E. Tallon	Madeira Island	Galway
20	Patrick Cudmore	Ballyclough	Limerick
21	William M'Cullagh	Cromac	Belfast
22	Edwin Blow & Co.	Dunadry	Antrim
23	Archer & Sons	Ballyclare	Antrim
25	W. Connison	Donnemond	Strabane
27	John O'Brien	Transtoun	Fermoy
28	Timothy O'Brien	Transtoun	Fermoy
29	Ellen Waters	Kilworth	Fermoy
31	Thomas Seery	Clondalkin	Dublin
32	M'Donagh	Rathfarnham	Dublin
33	Simon & Brown	Rathfarnham	Dublin
34	William Kidney	Enniskean	Bandon
36	Batters & Broadman	Boldbrook	Dublin
37	Stephens & Co.	Harold's Cross	Dublin
38	M'Donnel & Jordan	Templeogue	Dublin
40	Micael M'Donnel	Old Bawn	Dublin
41	J. M'Donnell & Co.	Saggard	Dublin
42	C. M'Donnell & Son	Killeen	Dublin
43	Daniel Sullivan	Drimnagh	Dublin
44	D. & J. Sullivan	Golden Bridge	Dublin
45	Peter Moore	Kilternan	Wicklow
47	J. M'Donnell & Co.	Saggard	Dublin
48	F. D. Ward	Island Green	Coleraine
51	Wm. Orpwood Wake	Mount Brown	Dublin

(Concluded on page 205).

OUR "STUFF-CHEST."

BY "THE AGITATOR."

THE St. Neots Paper Mills, of St. Neots, Huntingdon, re-opened on the 16th ult.

MR. W. C. CORKE, C.C., has been appointed Provincial Grand Senior Warden of Berkshire, and also J.P. for the county of Middlesex.

THE staff of the Donside Paper Co., Ltd., of Aberdeen, had an enjoyable day's outing recently to Old Paradise, Monymusk, and Benachie, returning by way of Inverurie.

JOHN GIBLIN (56), 107, Bolton Road, Bury, was admitted to the Infirmary on the 21st ult., suffering from injuries to his back and right side. Giblin, who is employed as a labourer at Messrs. Duxbury's paper mill, received his injuries through a fall.

MR. LAUNCELOT DYKES SPICER, of 50, Upper Thames Street, has accepted nomination as one of the Trustees of the Charity of John Dorsett "for the benefit of the Ministers and Poor of certain societies of Protestants and Dissenters in the county of London."

THE Theatre and Music Halls Committee, in a report to the L.C.C., say that no objection need be raised to the use, in moderate quantities, of paper streamers and temporary decorations made of paper, at dances, provided that the paper is rendered satisfactorily non-inflammable.

AT Messrs. John Wild & Sons' mill, Radcliffe, near Manchester, a War Memorial will be unveiled on August 4 to the memory of the employees who made the supreme sacrifice in the great war. The memorial takes the form of a handsome bronze tablet bearing the names of those killed.

SIR T. VANSITTART BOWATER recently received a circular posted in Belgium, for which the postage was 10 c. (about ½d.). Commenting on the fact that in England the postage would have been at least three-halfpence, the recipient asks "whether this is likely to reduce the loss on our postal service, etc."

MR. C. MALMROS, of Aktiebolag Klippans Finpappersbruks, has just left for the Continent after a brief visit to this country. We are pleased to announce that Messrs. Felber, Jucker & Co., Ltd., of London and Manchester, and Messrs. Paul Sabel & Co., of Upper Thames Street, London, E.C., have been appointed selling agents for the United Kingdom for this mill, who make white and coloured tissues, etc., etc.

THE Board of Trade announce that by an agreement made with the German Clearing Office now awaiting the approval of the Reichstag, the time for lodging claims with the British and German Clearing Offices by their respective nationals under Article 296, Section III, Part X of the Treaty of Versailles has been extended to September 30, 1921. No further claims under the above Article will be accepted after that date by the Clearing Offices concerned.

AT a recent meeting of the Court of the Stationers' Company, Mr. Charles Robert Rivington, J.P., D.L., was elected the Master, and Mr. Herbert Fitch and Mr. Edward P. Vacher were appointed the Wardens. Sir Cecil R. Harrison took his seat as an Assistant. Two apprentices were bound; Mr. D. E. Barnecut and Mr. J. E. Tyler were admitted to the Freedom by servitude; and the following were admitted to the Freedom and Livery: Sir R. H. H. Baird, K.B.E. (Belfast), Mr. S. J. Baker (Fleet Street)

Major D. P. Forman, B.A. (Nottingham), Mr. E. N. Mathison (Southwark Street), Capt. F. Petty (Leeds), and Mr. E. F. Stanford (Long Acre).

THE Paper Box Trade Board have agreed to propose to vary the general minimum time rates for female workers other than learners from 9½d. to 8½d. per hour, and the piece-work basis time-rate for all female workers from 9½d. to 8½d. per hour, with variations for learners and in the overtime rates. The Board also propose to vary the general minimum time rates for skilled male workers of 23 and over by a reduction of 1d. per hour, with corresponding reductions for younger skilled males, and in the overtime rates for all skilled males of 18 and over. No variation is proposed for other male workers. Objections to the Board's proposals must be lodged within two months.

IN the Chancery Division on the 13th ult., the case of Dobson, Mole & Co., Ltd., v. Greigner was mentioned to Mr. Justice Sargant. The case, which stands eleventh on the list of cases awaiting trial, was requested by counsel to be heard before the Long Vacation. Counsel was anxious to have this case tried during the present session as there was a large quantity of paper stored at Hull with the North Eastern Ry. Co., and heavy expenses were being incurred in connection with it. His Lordship stated that it was usual in such a case to obtain an order for sale, to which counsel replied that the market price had fallen heavily, and though an attempt had been made to negotiate with the other side as to what should be done, nothing satisfactory had been arranged; he had witnesses now on their way from Austria. His Lordship replied that he could not put the case in front of the others which now had precedence, and it must, therefore, take its turn, but whether it would be reached in the present term he could not tell.

BEFORE His Honour Judge Atherley-Jones, K.C., in the Mayor's and City of London Court, on the 25th ult., W. V. Bowater & Sons, Ltd., paper manufacturers, 159, Queen Victoria Street, E.C., sued Messrs. Wintern and Clark, paper agents, Byron House, Fleet Street, E.C., for £28 for 80 parcels of white newspaper, 22½ x 35 ins. in 50-lb. parcels flat, being two tons, one having been paid for. Mr. Foster, plaintiffs' counsel, said that an extraordinary affidavit had been put in by the defendants, who said that plaintiffs had only delivered one ton of paper and not two as alleged. Leave to defend had been given in consequence. Now the defendants admitted the claim and plaintiffs wanted their costs on the High Court scale until the action was remitted. Mr. Clark, one of the defendants, protested, and said he believed the affidavit was true when it was made. Mr. Foster added that the plaintiffs had been put to a very great inconvenience in the matter. The affidavit was illusory. Judge Atherley-Jones, K.C., found for the plaintiffs and gave them their High Court costs as asked.

ACCORDING to the *Labour Gazette*, employment continued slack during June in all branches of the paper, printing, and bookbinding trades, but showed a slight improvement on the previous month. Short time, however, is still general. The coal shortage and general depression have increasingly affected the paper trade, employment being reported as worse than the previous month. The percentage of workpeople in the printing, paper and bookbinding trades unemployed, as indicated by the employment books or out-of-work donation policies lodged at Employment Exchanges, was 9.5 per cent. at June 24, as compared with 9.7 per cent. on May 24. In addition, 4.2 per cent. of the workpeople were claiming benefit in respect of short time working at June 24, as compared with 4.3 per cent. at May 27. The number of work-

people in the paper trade on June 25 last was 8,730, being 1.8 per cent. more than a month ago, and 32.1 per cent. less than a year ago. The total wages paid at June 25 last were £24,076, being 8.8 per cent. more than a month ago, and 40.7 per cent. less than the previous year's figures.

AN outbreak of fire which occurred recently in the Dart Paper Mills, Buckfastleigh, owned by Messrs. Reed and Smith, fortunately did not develop so seriously as it at first threatened, mainly owing to smart work done by the local fire brigades and the Newton Abbot Brigade, the latter being on the spot within 25 minutes of receiving the call, although they had to cover eight or nine miles with their engine. The fire originated through spontaneous combustion in the pulp outside the mill premises. Employees immediately attacked the flames with fire extinguishers and pails of water, and prevented its spread to the main buildings. The local fire brigade, with their steam engine, were soon on the scene, and the Co-operative Wholesale Society's hand engine also did valuable work. Messages were sent to Newton Abbot and Totnes, the expeditious arrival of the Brigade being highly creditable. The Totnes engine arrived an hour after the alarm signal had been given, having first to obtain horses, and by this time the fire was well under control. Within a couple of hours the fire was extinguished. Some 70 or 80 tons of pulp are estimated to have been destroyed.

WE have received an interesting report compiled by Messrs. Jordan and Sons, Ltd., company registration agents, of Chancery Lane, W.C., giving statistics as to the different companies registered during the period from January 1 to June 30, 1921, at Somerset House. The report states that the figures show an enormous decrease, compared with the figures for the previous year, in the number and capitalisation of new companies, many causes conspiring to bring about this result. The more obvious of these were the natural reaction from the feverish activity of the company promoter in the spring of 1920, the growing unrest in the labour world and the increasing value of money. The seeming prosperity of the Company Registration Department of Somerset House in the spring of 1920 doubtless excited the cupidity of the Government and the Capital Duty was quadrupled in April, with a consequent depressing effect which still continues. There were very few companies formed this year with a million or more capital. In 1920, during the first half of the year, there were 81 such companies, aggregating £184,000,000, while in the past half year there were but six, with a gross total of £9,451,000. On the diminutive side may be mentioned a stationery company with a capital of £100 in sixpenny shares, a mercantile federation with £100 in half-crown shares and "Uno Containers," with £10 capital in £1 shares.

By invitation of the directors of the Irish Paper Mills, Ltd., a score of members of the Associated Irish Newspapers and Irish Master Printers' Association visited the mills at Clondalkin on the 10th ult. Major Moore, the managing director, presided at a lunch, and Mr. T. J. W. Kenny, President, Irish Master Printers' Association, in proposing "the prosperity of the company," said the Irish provincial printers looked forward to the day when every bit of paper printed in Ireland would be manufactured on Irish soil. They had watched the development of the Clondalkin Mills with very keen pleasure and during the period of difficulty through which they had passed, it was due to the mills that not a few Irish provincial newspapers had been saved from a temporary suspension of publication. Mr. T. F. McGahan mentioned the fact that much was being made at present of the cheapness of Continental paper, but those who were lured into investing in it would find by the time they had paid for the packing and carriage, it would not stand competition with the paper made by Irish hands at Clondalkin. (Applause.) The visitors were shown

through the mills by Major Moore, Mr. Guinness, Mr. R. Clapperton, and Mr. Gregory, and the process of manufacture was fully explained. The mills are at present employing 270 hands, and the weekly wages bill amounts to £900. The output in "news" (for printing papers alone) is 120 tons weekly, and about 60 tons of printings and writings are turned out weekly, in addition to various printing boards for box manufacture, etc.

At a special meeting of the Haslingden Town Council, held on the 13th ult., it was unanimously resolved to confer the freedom of the borough on Mr. O. W. Porritt, of Torrside, Helmschore, and of St. Annes and Grange, in recognition of his services to the borough. The resolution, which was moved by Major D. Halstead, and seconded by Alderman Russell, was in the following terms:—"That this Council desires to express its very high regard for the invaluable services rendered to this borough by Oliver William Porritt, Esq., J.P. The Council would especially refer to the able and distinguished assistance rendered by him during the period of the Great War, 1914-1919, in augmenting the supply of food to the inhabitants of the borough from his own estate at a period when food was most difficult to obtain, to the zealous interest he evinced while acting as chairman of the Wool Purchasing Committee in the country's direct need, to the munificence of his gifts to various charitable objects, to the gifts of land at Helmschore for a park and recreation ground, and for the erection of working class dwellings. The warm interest evinced by him in the educational and other elevating institutions in the borough, his courtesy and kindness to all with whom he has been brought into contact, and his careful and assiduous attention to the obligations attaching to his position, entitle him to this expression of approval and esteem on the part of the Council, and the Council do hereby in pursuance of the Honorary Freedom of the Boroughs Act, 1885, confer upon the said Oliver William Porritt, Esq., J.P., the Honorary Freedom of this borough (being the highest mark of esteem in the power of the Council to bestow) in recognition of his eminent services to the borough, and hereby admit him to be an Honorary Freeman of this borough."

CONTRACTS were placed during June last by H.M. Stationery Office with the following firms for supplies of paper of various descriptions: Harrison & Sons, Ltd., London, W.C.; J. Halden & Co., Ltd., Stockport; C. T. Hook and Co., Ltd., Snodland; C. Marsden & Sons, Ltd., Wakefield and Ransbottom; J. Allen & Sons (Ivybridge), Ltd., Ivybridge; A. M. Pechles & Son, Ltd., Accrington; Lloyd's Packing Warehouse, Ltd., Clayton Mill; J. Dickinson and Co., Ltd., Hemel Hempstead; Adcocks, Ltd., London, N.; J. Cropper & Co., Kendal; W. P. Griffith & Sons, Ltd., London, E.C.; A. E. Mallandain, Park Royal Mills, Middlesex; S. C. & P. Harding, Ltd., London, S.E.; Northfleet Paper Mills, Ltd., Northfleet; National Paper & Pulp Co., Ltd., Wycombe Marsh; J. Spicer & Sons, Ltd., London, E.C.; Caldwell & Co., Ltd., Inverkeithing, N.B.; Thomas and Green, Ltd., Woburn; P. Garnett & Son, Otley; J. Wild & Sons, Ltd., Radcliffe; Wm. Joynson & Son, Ltd., St. Mary Cray, Kent; G. Church & Co., Ltd., London, S.E.; E. Lancs. Paper Mill Co., Ltd., Radcliffe. Envelopes: Official Paid (London): Millington & Sons, Ltd., London, N.; Envelopes, Official Paid (Northern Area): John Dickenson & Co., Ltd., Hemel Hempstead. Envelopes, Telegram (London, Northern Area, and Edinburgh Contracts): Waterlow & Sons, Ltd., Dunstable. Ferroprussiate Paper, etc.: A. G. Thornton, Ltd., Manchester; Allot, Jones & Co., Ltd., Liverpool. *Crown Agents for the Colonies*: Paper: Spalding & Hodge, London, W.C.; J. Dickinson & Co., London, E.C.; Dunster & Wakefield, London, E.C. Wrappers: Waterlow & Son, Ltd., London, E.C. Post Office: Paper, for Envelopes: C. Marsden and

Sons, Barnsley. Paper, Printing: C. Townsend Hook and Co., Ltd., Snodland, Kent. Rags, White: The Northern Waste Co., Manchester. *High Commissioner for India*: Paper: J. Wild & Sons, Manchester; Wiggins, Teape & Co. (1919), Ltd., London, E.; W. Nash, Ltd., St. Paul's Cray; Ramsbottom Paper Mills Co., Ramsbottom; Hartlepool Paper Mills Co., London, E.C. Tape, Paper: Waterlow & Sons, London, E.C.

On Saturday, the 2nd ult., the staff of Charles Morgan and Co., Ltd., of 58-60, Cannon Street, held their second annual outing. Members of the warehouse and packing staff to the number of 29, journeyed by char-a-banc to Hastings, where they enjoyed to the full the many delights this popular seaside place provides. Luncheon and tea were partaken of at Lewcock's Restaurant, Denmark Place, under the presidency of Mr. F. W. Bush and Mr. J. H. Kemp, who officially represented the firm. As on the previous occasion last year, Mr. W. A. J. Foster (chairman of the company) on behalf of Messrs. Busbridge & Co., Ltd., East Malling Mills, of which company he is also chairman and managing director, invited the clerical staff of Charles Morgan & Co., Ltd., to spend the day at Malling, and his East Malling employees issued a challenge to the staff of his London firm to a cricket match. Seventy-eight members of the staff travelled by train from Victoria, arriving at Malling shortly before eleven o'clock, and the party proceeded to Clare Park, where the cricket match took place. It was not expected that Morgan's team, which was entirely a scratch one, could vanquish the Malling team, composed, as it was, of many men who have almost daily opportunity of practice, assisted by Mr. Huddleston, a Lancashire County player, but the Morgan team made a very good show, and dismissed the Malling team before lunch for 158 runs. A feature of the match was the performance of a young player of Morgan's team, who, though under eighteen years of age, in the first innings

took eight wickets out of ten, with a debit of 29 runs. At 1.30 the match was adjourned for lunch, which was supplied in a large marquee, by the Cannon Restaurant Co., Maidstone. About 120 sat down to a sumptuous meal, at the conclusion of which Mr. Foster made a short speech welcoming the visitors to Malling, and expressing the pleasure it gave him to again entertain his London staff. He looked forward to the time when the present labour and trade difficulties having disappeared, the staff of Charles Morgan & Co., Ltd., would be able to possess their own sports ground, where they could cultivate the sporting and social interests so essential as a set-off to the strenuous work in which they were daily engaged. Mr. H. Holmes (managing director of Charles Morgan & Co., Ltd.) thanked Mr. Foster for again giving the staff the opportunity of a day in the country, and Mr. A. Brewer (manager of Export Department) briefly thanked his directors for arranging facilities for the staff to make the journey. At the conclusion of lunch, each lady was presented with a handsome box of chocolates, and the cricket match was resumed. Whilst this was in progress, a programme of races, arranged by Mr. G. Bradley (manager of Morgan's Shipping Department) was carried out, the competitors being those of both sexes who were not taking part in the cricket match. Tea was provided in the marquee, at the termination of which, the prizes won in the various races were presented, with a few graceful words to each successful competitor by Mrs. Foster. Stumps were drawn at 6.30, when the score was as follows: East Malling, 158 (A. Mills, 30, E. Blunden 34.) and 178 (Huddleston 57, A. Mills 23, and G. King 23); Chas. Morgan & Co., 65 (L. G. King 18, M. Bronkhurst 10), and 41 for one wicket (M. Bronkhurst 20, H. C. West 19 not out). The party returned to London by the 7.6 train, arriving at Victoria about 9 o'clock, everyone tired and happy, having thoroughly enjoyed their day's outing. The weather was gloriously fine the whole of the day, and consequently everyone highly appreciated the outing.

H. REEVE ANGEL & CO. LTD.

Telephone:
CITY 7414 (3 lines).

AND AT:—
53, Dale Street,
MANCHESTER.

Telephone: Central 4473.
Telegrams: "Suomi, Manchester."

Managing Director: H. REEVE ANGEL.
Directors: E. J. Angel and A. E. Squire.

9, Bridewell Place, LONDON, E.C.4.

Telegrams:
"PAPERMEN, FLEET, LONDON."

AND AT:—
75, Buchanan St.,
GLASGOW.

Telephone: Central 6008.
Telegrams: "Suomi, Glasgow."

Sole Mill Representatives for:—

W. & R. BALSTON, Ltd., Maidstone, KENT.

Manufacturers of the world-famous WHATMAN Drawing, Ledger and Writing Papers, and high-grade WHATMAN Chemical Filter Papers.

Sole Mill Representatives for:—

T. B. FORD, Ltd.,

Loudwater, Bucks.

Specialists in the manufacture of INDUSTRIAL FILTER PAPERS and FILTER PULPS.

Sole Sales Agents in the United Kingdom for:—

THE FINNISH PAPERMILL ASSOCIATION

for the following grades:—

Newsprint: Glazed and Unglazed, on Reels. Printings: Glazed and Unglazed, on Reels. Wallpaper on Reels. Cigarette Papers in bobbins and sheets. Carton and Drawing Papers and Boards. Duplex and Triplex Papers and Boards. Bristol, Ivory and Card Index Boards, etc., etc.

ALSO FOR ENGLAND (North of Birmingham), SCOTLAND and IRELAND for:—
Printings, Writings, Banks, Envelope and Cover Papers, etc., in either Sheets or Reels.

FOR QUALITY AND QUANTITY

COMMUNICATE WITH THE
ORIGINAL
RELIABLE FIRM

COOKSON BROTHERS,
STOCKPORT, ENGLAND.

Telegraphic and Cable Address :

"BAGGING, STOCKPORT."

Codes—A B C 5TH EDITION, LIEBER'S. WESTERN UNION, WASTE TRADE, PRIVATE.

Telephone :

No. 609 Stockport (3 lines)

Every description of Linen Bags, Cotton Bags, Woollen Bags, Ropes, Bagging, Surat Tares, Messianis Twines Canvas, Tarpaulin, Wood Pulp, Engine Waste, Sponge Cloths, Cotton, Cotton Waste, New Papers, Waste Papers, etc., etc.

BRITISH PAPER TRADE IN 1853.—(Continued from page 202).

NO.	MAKER.	MILL.	WHERE SITUATED.
52	James Hodnett	... Sallybrook	... Cork
53	James Garvey	... Ballingboole	... Limerick
55	John Williams	... Bridestown	... Fermoy
56	William Chain	... Morliva	... Antrim
60	Thomas Seery	... Clondalkin	... Dublin
61	Joshua Horner	... Farthlaghan	... Dungannon
62	Robert Y. Goggin	... Iverstown	... Kinnis
64	Paul Brown...	... Rockbrook	... Dublin
65	Benjamin Allen	... Tower Bridge	... Cork
66	Dollard & Co.	... Rockbrook	... Dublin
67	Alfred Greer & Co....	... Glenville	... Cork
70	Daniel McCue	... Roserville	... Brandon
71	F. D. Ward	... Island Green	... Coleraine
72	Michael Hoey	... Mulladuff	...
81	Cullen & Donaldson	... Six-Mile-Bridge	... Limerick

[Among the many points of interest which will arise from a perusal of the Directory, is one relating to the ownership of Mill 253, at Taverham, near Norwich (not Northwich). This mill, we believe, at one time supplied the paper upon which the *Times* was printed, and in 1853 apparently belonged to Delane, Magney & Co. Subsequently, we believe, it was owned by the Walter family. The most celebrated editor of the *Times* was John Thadens Delane, who filled that position for 36 years from 1841. It would be interesting to learn whether there was any connection between the Delane of the paper mill and the Delane of the *Times*. Perhaps some of our readers can give information upon the matter and upon other queries which may suggest themselves.—ED.]

According to the *Shanghai Nippo*, Sino-Japanese capitalists will establish a paper mill in Kirin with a capital of \$5,000,000. It is reported that the Ministry of Agriculture and Commerce has given its approval.

RIORDON PAPER COMPANY IN TROUBLE.

THE *Times* correspondent at Toronto, cabling on the 26th ult., says : An all-day meeting of the directors, bankers, and creditors interested in the Riordon Pulp and Paper Company failed to find a solution of the company's difficulties. Further meetings will be held during the week in the hope of effecting a settlement.

It is understood that the call upon the shareholders for the money necessary for the immediate objects of the company failed to meet with a satisfactory response. Three million dollars (£750,000) out of the \$5,000,000 (£1,250,000) required is in sight, but that is insufficient to meet the obligations of the company and carry out a policy of readjustment. A new plan for re-financing the company is now under consideration, and the officials of the company declare that in this they have the co-operation of all concerned. A committee of creditors, co-operating with the directors, is advising the creditors that nothing is to be gained by extreme action until a fair opportunity has been allowed to determine whether or not the new plan for financing the company can succeed.

The inventories of the finished product, which some months ago showed as much as 20,000 tons of pulp on hand, have now, it is understood, been reduced to 6,000 tons, and bank loans have also been slightly reduced.

On the following day the *Times* correspondent cabled as follows : A letter has been issued to the creditors of the Riordon Pulp Company by Mr. Montague Davy, chairman of the Committee of Creditors, announcing the failure of the plan to raise the necessary money by an appeal to the shareholders to buy the bond issue, but urging the unwisdom of precipitate action, or any legal proceedings whatsoever, until the new plan for financing the company is announced.

The general opinion is that liquidation is improbable.

NORTHERN NOTES.

Branch Offices,
448-450, Produce Exchange,
Manchester.

It is very pleasing to be able to report that there is at last some indication of business improving, and I hear already that a few good inquiries are on the market both for paper and wood pulp.

This is a very welcome sign, and there is no doubt that, but for the coal strike, which came along and sadly interfered with things, business would have revived at least two or three months ago.

Serious as the coal strike was in fact, it has been greatly magnified abroad, especially in Scandinavia, judging by what has appeared in the Scandinavian press. Most misleading statements and exaggerations have appeared out there, which have, happily, been corrected in due time before mischief resulted. It is satisfactory to feel that we are getting at the end of the long period of idleness.

Pulp and paper agents seem to be very much on the alert just now. They realise no doubt that there is going to be keen competition for a certain period. Prices are still easing off, and therefore paper-makers have an opportunity of taking up cheap stock lots now on offer.

There appears to be a growing feeling that prices must firm up very considerably towards autumn. This feeling seems to be shared by the Scandinavians and the pulp agents on this side.

I understand that bleached sulphite has been offered round about £25 per ton c.i.f., while easy bleaching sulphite is being freely offered at £20 c.i.f. Soda pulp is being offered at about the same price. Mechanical pulp is on offer at about 80s. c.i.f., and I have heard that even less than this would be accepted if any mill were in a position to-day to buy.

But although most of the mills have started up again, still, beyond a few small enquiries, there is little inclination to do fresh business. It is obvious that the present stocks in this country must be used up in order to avoid deterioration, etc.

Freights are still very easy, and 25s. per ton, Baltic to the East Coast, is the figure I have heard of as having been accepted.

Eighteen shillings per ton from East Norway to East Coast ports is the figure that has been accepted for sulphite.

With regard to freights, there is a feeling that the figures must rise again this autumn.

Stocks of pulp in the different ports on this side are being steadily reduced through more than one reason.

Two fires have occurred at the Preston Docks recently and have done considerable damage to quantities of pulp lying there. As far as I can ascertain about 1,700 tons of pulp have been more or less damaged by either fire or water.

Naturally the Preston Dock authorities have been very much concerned about these outbreaks, and a very strict watch is being kept to safeguard the remaining stocks there.

I understand that the second outbreak at the Preston Docks occurred in the stock that was inspected personally

by Mr. Hopperton within half-an-hour of his leaving the site. Spontaneous combustion is believed to be the cause of the outbreaks.

The dock fires have not been confined to Preston, for Manchester Docks have also suffered outbreaks, but in the case of the latter no pulp was involved. It was cotton that suffered.

A rather serious fire occurred at the Barnsley mills of Messrs. Chas. Marsden & Sons, and a fairly large stock of pulp and waste was entirely burnt.

I understand one or two outbreaks of fire have occurred at paper mills in Lancashire, but the damage was, happily, not serious. Again spontaneous combustion is alleged to be the cause.

I hear that Mr. Lagergrau, of Nensjl, arrived in London on July 18 to arrange for certain big contracts for soda pulp. He is expected in Lancashire during his stay in England, where he is sure of a hearty welcome.

Mr. S. Nicol has just returned (at the time of writing) from another Scandinavian tour, and I believe he has had some very important and interesting interviews with influential people out there. Doubtless Mr. Nicol will be good enough to give the trade generally his impressions and views of the present position and a forecast of the future prospects.

An interesting cricket match took place at Feniscowles, Blackburn, on July 11, through the initiative of Mr. J. E. Jepson, managing director of the Star Paper Mill Co. The match was arranged between a team selected from the staff of the Star and Sun paper mills and a party of pulp agents of Manchester.

Needless to say that a very pleasant time was spent. To the general regret Mr. J. E. Jepson was unable to take part in the game through being called away on urgent business, but the company had the great pleasure of having Mr. J. E. Jepson, J.P. (his honoured father), amongst them, apparently in fairly good health.

The pulp agents, by the way, had the privilege of batting first, but, alas! were in anything but good form, for they were very quickly disposed of for a score of about 50 runs! Great things had been forecasted by certain of the party, which, unhappily, did not come off.

The picked team from the Star and Sun mills then took the field and kept the untrained visitors in the field, under a tropical sun, with plenty of work to do for two and a half hours, running up a total of 195, at which figure the home team very generously declared their innings closed, to the intense relief of the visitors.

The Feniscowles team were magnanimous enough to lend their best bowlers to the visitors in order to pull down their own wickets, but the ultimate result was inevitable.

During the innings of the visitors the procession backwards and forwards to the wickets was so rapid that the players had scarce time to take off their borrowed plumes to hand them over to the next batsmen.

It was rare fun altogether, and all being true sportsmen, the right spirit prevailed throughout. I believe other matches are in contemplation, when perhaps our pulp friends will have better luck.

Messrs. Sutcliffe Bros., of the Globe Works, Godley, Manchester, have recently converted their well-known business of boiler and pipe covering manufacturers and contractors (established in 1869) into a private limited liability company. The personnel of the management for the registered company will continue as before, and Mr. J. Watson Sutcliffe (late proprietor) and Mr. Reginald Bryce (late manager) have now become sole directors.

The name of the company, however, will, in future, be Sutcliffe Bros. & Bryce, Ltd., with the principal works and head offices at Globe Works, Godley, Hyde, near Manchester.

Mr. Harry Clegg (Messrs. Lewis Clegg & Son) received a very hearty welcome from his Manchester friends on the 21st ult. on his return to business after his restoration to health.

Shipping is reviving at the various docks. At the time of writing there had been no less than sixty large boats lying in the Manchester Ship Canal doing nothing.

I was told that no less than five million tons of coal have been shipped to this country, selling at from £5 to £6 per ton, and much inferior to our own coal lying at our own doors.

My informant added: Just think of it; one firm of coal merchants have 10,000 tons of coal on their hands for sale from abroad. Think of the cost of all this imported inferior stuff at an inflated price, which has to be met, and sent abroad when we had it at our very doors! Think of what could have been done with the money in this country in the way of developing trade here.

"Again, through engineers in this country refusing to increase their output with the benefit of bonus, etc., several important contracts have gone to America and Italy, which will provide lucrative employment for at least four years! When will workers realise the folly of strikes in place of arbitration for the settlement of labour troubles?"

The Kellner-Partington Paper Pulp Co., Ltd., 26, Cannon Street, Manchester, where they have just completed extensive improvements and enlargements, have been appointed agents for A/S Damang Papirfabrik, Sandviken, Norway, for the following specialities:—Banks, tinted banks, Bible printings and pot papers (the latter for the Indian market). The company's other offices are Blackfriars House, New Bridge Street, London, and at 16, Westmoreland Street, Dublin.

Mr. O. W. Porritt, of Torside, Helmsford, and St. Annes-on-the-Sea and Grange-over-Sands, chairman of the Wool Purchasing Committee during the war, is to receive the honorary freedom of Haslingden in recognition of his services to the borough and the country.

Mr. John Bailey (formerly of Messrs. A. M. Peebles & Sons, Ltd.) has been appointed representative for Lancashire for Messrs. F. & G. W. Stonier & Co., Ltd., the well-known paper machine wire manufacturers of Strangeways, Manchester. Considerable alterations and improvements have been recently effected at the Strangeways Works to meet a steadily increasing business.

Mr. Edwin Dodds, of Messrs. H. D. Pochin & Co., Ltd. has been making a business tour in Scandinavia, and was expected back about the 25th ult.

MANCUNIAN.

THIRY & CO.

PAPER MAKERS' ENGINEERS
— BELGIUM —

COMPLETE PAPER MACHINES

CUTTERS & REELERS

STRAINERS

BEATERS & PULPERS

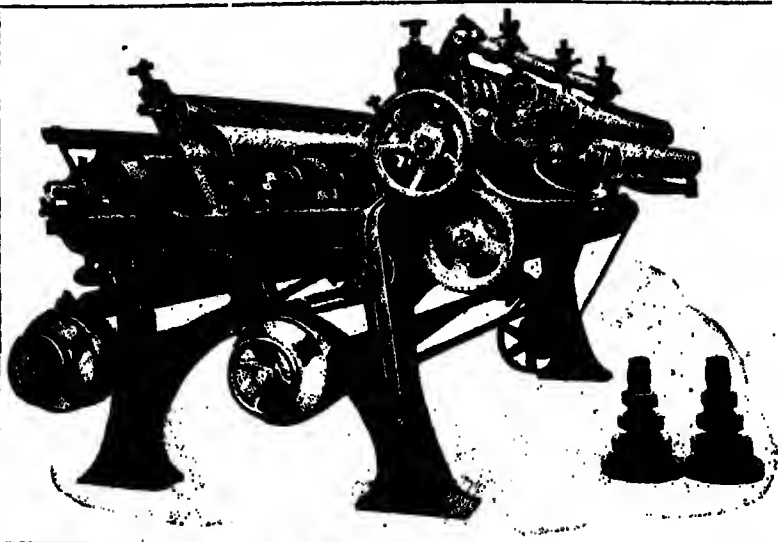
STONE ROLLS

BOARD MACHINERY

PAPER MACHINE PARTS

AND

ALTERATIONS TO MACHINES



DUPLEX CUTTER

MADE IN THREE STANDARD WIDTHS. PARTS ALWAYS ON STOCK
RANGE OF CUTTING LENGTH—18 ins. to 102 ins.

STRONG & DURABLE

SOLE AGENTS FOR U.K.

WHITTAKER & CO. ENGINEERS

SUPPLIERS OF ALL KINDS OF PAPER MAKING MACHINERY & ACCESSORIES

CASTLE CHAMBERS, MARKET PLACE,
BURY, LANCs.

TELEPHONE:
698 BURY

TELEGRAMS:
"MECHANIC" L BURY

EMPLOYERS' FEDERATION OF PAPER-MAKERS.

THE eighth annual general meeting of the Employers' Federation of Paper-makers was held at the Royal Hotel, Princes Street, Edinburgh, on Wednesday, the 6th ult. Mr. Chas. R. Seddon, J.P., of the East Lancashire Paper Mill Co., Ltd., presided, and there were also present:—
 Mr. W. Verdon Anderson (Smith, Anderson and Co., Ltd.).
 Mr. A. Douglas Clapperton (Wolvercote Paper Mill Co.).
 Mr. R. C. Cowan (Alex. Cowan and Sons, Ltd.).
 Mr. W. D. Dixon (J. and W. Dixon).
 Mr. James Fletcher (Annandale and Son, Ltd.).
 Mr. John Galloway (John Galloway and Co., Ltd.).
 Mr. W. Garden (Alex. Cowan and Sons, Ltd.).
 Mr. H. E. Haig (Guard Bridge Paper Co., Ltd.).
 Mr. J. L. Jardine (James Brown and Co., Ltd.).
 Mr. Wm. Jardine (James Brown and Co., Ltd.).
 Mr. A. Law (Hill, Craig and Co.).
 Mr. James Luke (Vale Paper Co.).
 Mr. J. M. Macpherson (Woodhall Paper Co.).
 Mr. R. A. McLaurin (Smith and McLaurin, Ltd.).
 Mr. — Melville (James Henderson) (Bonnington Paper Mills, Ltd.).
 Mr. W. E. Nuttall (Cooke and Nuttall, Ltd.).
 Mr. W. S. Paterson (Henry Bruce and Sons, Ltd.).
 Mr. W. B. Pirie (Alex. Pirie and Sons, Ltd.).
 Mr. Jas. Stewart (Y. Trotter and Son, Ltd.).
 Mr. J. D. Tod (John Tod and Son, Ltd.).
 Mr. C. G. Wallace (Wm. Sommerville and Son, Ltd.).
 Mr. — Ross (Team Valley Paper Mills, Ltd.).
 Mr. Wm. Dyson (Organiser).
 Mr. D. Callender (Secretary, Scottish Section).
 Mr. A. W. Foster (Secretary, Southern Section).
 Mr. John L. Merchant (General Secretary).

Apologies for absence were received from Messrs. Backhouse and Coppock, Ltd., British Paper Co., Ltd., Chadwick and Taylor Ltd., John Dickinson and Co., Ltd., Empire Paper Mills, Ltd., Hendon Paper Works Co., Ltd., Edward Lloyd, Ltd., Wm. Macintyre, Junr., and Co., Ltd., Wm. Nash, Ltd., Albert E. Reed and Co., Ltd., Smith, Stone and Knight, Ltd., Star Paper Mill Co. (1920), Ltd., Wm. Tod, Junr., and Co., Ltd., R. and W. Watson, John Wild and Sons, Ltd.

The recommendations of the meeting of the Joint Industrial Council in reference to the amendment of the national agreement with the Unions with slight modifications suggested by the Executive Council were unanimously approved.

The report of the Executive Council, which deals with the transactions of the year, was read by the Secretary.

The accounts for the year were submitted.

The CHAIRMAN (Mr. Chas. R. Seddon, J.P.), in opening the proceedings, said:—

The annual report of the Executive Council, which I propose for adoption, gives a record of the achievements of the past year. The change in the constitution allows a greater latitude to the District Boards and has given the Boards a sense, not only of greater freedom, but of greater responsibility. I am pleased to say that the members of the Boards have risen to the occasion and shown an interest in the work of the Federation, which has been of great advantage to themselves, and much encouragement to me in the discharge of my duties as president. The proceedings of the past year have brought us together very frequently, and I find that my toll of meetings and conferences has averaged a weekly attendance; at the same time I do not overlook the fact that all the members of the Boards and of the Executive Council have willingly given their time to the consideration of the important

questions which have arisen, and I wish to thank them for their cordial co-operation and assistance. Never in my association with the paper trade have I known it to be in a more depressing condition than it has been during the past nine months, and, although it is not within my province at this meeting to make reference to the commercial side of paper-making, except so far as it reflects upon employment, yet I feel that the question of labour generally has such a bearing upon the condition of trade that I may be forgiven for referring briefly to the general position. On the top of the great slump in trade from which we were all suffering came the coal strike, which threw us back beyond anything it was even anticipated was at all possible. The coal strike has resulted in the stoppage of many mills and the further accumulation of heavy stocks of materials, which have strained the financial capacity of even the most affluent concerns. Most trades are similarly affected, and there is no speedy remedy. The position can be improved only by industry and economy and by patient and diligent effort. It is the result of the destruction of wealth by war and the social unrest which has followed it. We may draw some satisfaction from the fact that we are not poorer than other nations, but it is the poverty of other nations which is one of the chief contributory causes of bad trade. At the present time, speaking generally, the business of the country lacks both capital and customers. The demand is there but not the purchasing power. Credit requires to be restored and extended for the purpose of creating more productive capital, and production costs reduced; this will lead to trade revival, diminution of unemployment, and wider opportunities for labour. The greatest service that could be rendered by the State not only in this but in all countries at the present time would be to create more capital by means of national credit, placed at the disposal of industry. With intensive production and the lower prices which would follow as the consequence, we can gain a competitive advantage which will enable us to pay for the commodities we require by means of our exportable surplus, increase supplies, reduce the cost of living, and improve the volume of business to an extent which will create a competition for the services of wage earners, thereby raising their status and affording them a share in the general prosperity by means of higher wages and an adequate standard of comfort. When production assures a surplus the country is prosperous, but if labour takes in wages more than it produces in value, the produce of labour becomes unmarketable and unemployment results. As you are all well aware, one of the causes of the present unsatisfactory state of trade is the position of foreign exchanges, which gives to our foreign rivals an advantage in our markets which defies competition. You are also aware that a measure for the safeguarding of industries is before Parliament, and I refrain from alluding further to this complicated subject except to say that I believe the position ultimately brings with it its own remedy, and the movements of demand and supply gradually affect the rate of exchange until it eventually resumes its real value. In the meantime the question of collapsed exchanges is one which requires an antidote, and it is one which affects particularly the paper trade and which directly concerns not only employers but also trade unions, because so long as our home market is invaded by paper against which we have no chance of quoting a competitive price, the demand for labour in all paper mills is decreased to the extent of these imports. Reference is made in the annual report to the unemployment which exists in the paper trade, and it is hardly

necessary for me to mention the sympathy which we extend to those who are placed in a position of inconvenience by circumstances over which we have unfortunately no control. I feel that I am expressing a sentiment with which you will all agree in saying that every effort should be made, and I am confident that every opportunity is being taken of affording to the workers the fullest employment that circumstances permit. Industry generally has recently been the victim of a series of disturbances, some of which have ended in strikes, which have reacted upon other industries, causing the commodities which support not only the strikers but the rest of the people to be withheld. The result is that unemployment is permanently increased by reason of industry being forced out of the country, efficiency is lost, as well as profits out of which wages are provided, and a spirit of distrust and disaffection is engendered which is in direct opposition to the new spirit of confidence and co-operation which it is in the interests of both employers and employed to foster. We have no use for strikes, because they are fatal to prosperity, and it is a matter for congratulation that the paper-making industry has in this respect a comparatively clean record; and so long as the unions are led by men whose object is to promote the best interests of the workers and of the paper-making industry, and who are sensible of the responsibility which rests upon them, I feel sure that by means of the organisations which we possess we can come to agreement on the basis of mutual advantage without recourse to coercive measures. For this purpose we have formed a Joint Industrial Council, the object of which is to represent the industry as a whole on national questions, and to act as an advisory court of reference in which the voice of the worker as well as the employer may be heard. It is hoped that this Joint Council, although it has no executive authority, in its advisory capacity will be the means of attaining the maximum production with a minimum of friction, of safeguarding the interests of the industry, of developing co-operation, and of contributing to the well-being of both the workers and the employers. We made use of the Joint Industrial Council on Friday last in dealing with the amendments which are now necessary to the National Agreement No. 2 in order to provide for a reduction in wages proportionate to the decrease in the cost of living. The deliberation of the Council resulted in the recommendations which have been submitted for your consideration. In common with all industries, we have been obliged to suggest reductions, and the attitude of labour generally to these reductions has not been unreasonable, because it is realised that the cost of living can only be reduced by reducing the cost of production. We have approached this proposal reluctantly, and it is not astonishing that on the part of some of the workers there was reluctance to accept it; but the economic position renders it imperative that the cost of production must be reduced if the industry is to survive, and we were compelled to ask labour to take a share in the general industrial change. It is necessary that these reductions, which, as I have said, are common to all industries, should be accepted with good grace, so that the unity of purpose between employers and employed, which is vital to progress, may be preserved. Only by industrial concord can we hope to obtain the full produce of our industries, which is essential to the full recovery of our export trade, upon which we depend for the equilibrium of our international transactions and our food supplies. Cost of production fixes the price of the product, and only adequate output can sustain wages. If a man relaxes his efforts and at the same time insists that his wages remain high, he thereby raises the cost of his products, and consequently the price of the commodity he produces, and thus reduces the purchasing power or value of his earnings. There can be no steady improvement in the position of the worker until the

fact is recognised that the true basis for the determination of wages is that of output. I would place no limit on what a man could earn, provided it is in proportion to what he can produce. I believe that if we could throughout our industries convince the employees of this fact, prosperity would be assured. It is said "when things get to the worst they begin to mend, if this adage can be relied upon, we are justified in anticipating a change for the better in the paper trade. Industry has passed through a state of disturbance and, in the process, the commerce of the country, which is of equal importance to the worker as to the employer, has sustained incalculable injury. However, we appear to be emerging from these disturbances, and it is devoutly to be hoped that labour will be permitted to settle down in order that the industry of the country, upon which the wages of the worker are the first and largest claim, may have a fair opportunity of earning sufficient to meet this claim and also to make a legitimate return upon the invested capital which affords him employment. The problem before the paper trade is to find orders for the mills, and every industry is in the same position, and the disastrous consequences of the coal stoppage will be felt for a long time. The cessation of coal exports has added an additional setback to our credit abroad, and the cessation of industry at home for want of motive power has caused irreparable loss to the country, which will inevitably mean greater taxation of industry later on, and this increase will be accentuated by the large and unproductive expenditure in unemployment pay. There is a point at which this sort of thing must stop, and I believe that point is now within sight. The settlement of labour differences in coal, cotton, transport, engineering and other industries gives indications of the removal of those disturbing elements which have for some time past made it impossible in the big industries to give quotations with any degree of certainty as to price or delivery; and this feeling that labour is at last settling down, coupled with a general atmosphere of renewed hope, gives buoyancy to our anticipation of a good time coming which should in due course reach the paper trade. All I can add is, Let it be soon.

In concluding, Mr. Seddon said it would be remiss on his part if he failed to refer to the excellent services of the General Secretary and the Federation officials, and he expressed his appreciation of the manner in which the work of the Federation had been carried out.

Mr. R. C. Cowan, in seconding the adoption of the report and accounts, fully endorsed the remarks of the President.

The report and accounts were then adopted.

Messrs. John Adamson, Son and Co., chartered accountants, Spring Gardens, Manchester, were re-appointed auditors to the Federation.

The election of the District Boards as follows was confirmed:—

Northern Section.—Messrs. E. W. Allen (Olive and Partington, Ltd.), S. Chadwick (Chadwick and Taylor, Ltd.), J. Elliott Jepson (Star Paper Mill Co. (1920), Ltd.), W. E. Nuttall (Cooke and Nuttall, Ltd.), S. Riley (John Wild and Sons, Ltd.), S. D. Whitehead (Robert Fletcher and Son, Ltd.), A. Kay (Olive's Paper Mill Co., Ltd.), J. W. Cropper (James Cropper and Co., Ltd.), J. Lomax (Darwen Paper Mill Co., Ltd.), John Seddon (East Lancashire Paper Mill Co., Ltd.), Wm. Clough (Ramsbottom Paper Mill Co., Ltd.), C. F. L. Slater (Henry and Leigh Slater, Ltd.), James McClelland (Ulverston Paper Mill Co., Ltd.)

Southern Section.—Messrs. A. Baker (Empire Paper Mills, Ltd.), A. Ralph Reed (Albert E. Reed and Co., Ltd.), C. H. Sanguinetti (British Paper Co., Ltd.), A. E. Gooding (Imperial Paper Mills, Ltd.), P. W. Holden (Wiggins, Teape and Co. (1919), Ltd.), T. D. M. Burneside (Pirie, Wyatt and Co., Ltd.), H. Goldstraw (John Dickinson and Co.,

Ltd.), P. Seymour Smith (Smith, Stone and Knight, Ltd.), W. Dedrick (C. Townsend Hook and Co., Ltd.), Wm. Nash (Wm. Nash, Ltd.), R. Miller (Edward Lloyd, Ltd.), F. J. Thomas (Thomas and Green, Ltd.), F. Jackson (Jackson's Millboard and Paper Co., Ltd.), A. L. Sharpe (Backhouse and Coppock, Ltd.)

Scottish Section.—Messrs. R. C. Cowan (Alex. Cowan and Sons, Ltd.), J. G. Flowerdew Lowson (Hendon Paper Works Co., Ltd.), James Luke (John Luke), Cmdr. W. B. Pirie (Alex. Pirie and Sons, Ltd.), Messrs. Watson (R. and W. Watson), J. D. Tod (John Tod and Son, Ltd.), R. A. McLaurin (Smith and McLaurin, Ltd.), C. G. Wallace (Wm. Sommerville and Son, Ltd.), Wm. Verdon Anderson (Smith, Anderson and Co., Ltd.)

A hearty vote of thanks to the President terminated the proceedings.

OPENINGS FOR THE BRITISH PAPER TRADE.

FROM THE "BOARD OF TRADE JOURNAL" AND OTHER SOURCES.

The Commercial Secretary to His Majesty's Legation at Montevideo (Captain Eric C. Buxton) reports that a local firm are desirous of obtaining samples and quotations from United Kingdom manufacturers of high-class writing and printing papers. Further information may be obtained by United Kingdom manufacturers interested on application to the Department of Overseas Trade, 35, Old Queen Street, S.W.

A firm of manufacturers' agents in Montreal desire to obtain the representation of United Kingdom manufacturers of alum, Fourdrinier wire, pulp stones, sulphites, felts, china clay, and other commodities for use in the manufacture of pulp and paper, on a commission basis, for the whole of Canada or any part thereof. (Reference No. 11.)

A firm of commission agents in Toronto, a representative of which is now in London, are desirous of securing the agency for Canada of United Kingdom manufacturers and suppliers of paper mill stock, such as wire and felt, rags and waste paper. Further enquiries to be sent to the Canadian Trade Commissioner's office, Portland House, 73, Basinghall Street, E.C.2.

H.M. Consul-General at Amsterdam reports that a firm of commission agents in Holland are desirous of establishing a connection with United Kingdom manufacturers of cheap wrapping paper and boxell stationery. (Reference No. 39.)

The Commercial Secretary to H.M. Legation at Montevideo states that a local firm are desirous of obtaining samples and quotations from United Kingdom manufacturers of high-class writing and printing papers. (Reference No. 83.)

[Unless otherwise stated, inquiries relating to the foregoing should be made personally or by letter to the Department of Overseas Trade (Development and Intelligence), 73, Basinghall Street, E.C.2.]

REVISED import duties have been put into operation on cigarette paper imported into the Netherlands as follows:—Cigarette paper in the form of tubes or small sheets, not more than 25 sq. cms.—present rate 5 per cent. *ad val.*, revised rate, 1.50 fl. per thousand. Cigarette paper in sheets or rolls—present rate 5 per cent. *ad val.*, revised rate, 0.60 fl. per sq. m.

NEW SWISS TARIFF.

THE undermentioned duties on goods imported into Switzerland are increased under the new tariff of import duties which came into force as from July 1, 1921, and include the following:—

Tariff No.	Articles.	Rate of Duty.	
		Former.	Revised.
CLASS VI.—PAPER AND PRODUCTS OF THE GRAPHIC ARTS.			
<i>A. Raw Materials for the Manufacture of Paper.</i>			
288	Rags of all kinds, except those for manure, old ropes, and other waste for the manufacture of paper, waste paper, etc.	Fr. cts. 0 50	Fr. cts. 0 10
289	Fibrous materials for the manufacture of paper: Obtained by mechanical processes (wood pulp, sawdust) wet or dry; rags in pulp	1 50	3 50
	Obtained by chemical processes (cellulose, pulp or straw, esparto, etc.), wet or dry:		
290	Unbleached	1 75	4 50
291	Bleached	2 25	5 50
(NOTE to Nos. 289-91.—Fibrous pulp in the form of paper or board falls under these Nos. only if the sheets are perforated, before import, in such a way that they cannot be used as paper or board.)			
<i>B. Paper and board, not printed (i) Not having undergone any additional processes since manufacture.</i>			
292	Grey cardboard; straw and wood pasteboard, leather board, etc.	4 00	10 00
(NOTE to No. 292.—Cardboard in sheets less than 0.5 square metres in area is included under No. 330.)			
<i>Packing paper:</i>			
293	Rough on both sides, weighing from 100 to 400 grammes inclusive per square metre.	5 00	15 00
294	Not elsewhere specified in the General Tariff, including oiled paper	7 00	20 00
295	Corrugated paper	8 00	25 00
296	"Patent packing" and similar paper	8 00	20 00
297	Tarred paper	8 00	20 00
(NOTE to Nos. 292-297.—The weight of 400 grammes per square metre is taken as the limit distinguishing packing paper (Nos. 293-297) from board (No. 292), so that goods weighing up to 400 grammes inclusive are still classed as packing paper, whilst those weighing over 400 grammes are regarded as board.)			
Glass, sand and emery paper are included in goods manufactured with emery (Class VIII, No. 630).			
298	Blotting paper and blotting board, filter paper, even folded up in the shape of filters	10 00	50 00
299	Tissue paper weighing 25 grammes or less per square metre	10 00	25 00
(NOTE.—Tissue paper weighing over 25 grammes per square metre is included, according to kind, under Nos. 298, 301 or 302.)			
Printing and writing paper, letter paper, drawing paper: (i) one colour:			
300	Weighing from 45 to 55 grammes per square metre, containing wood (paper for newspaper printing)	8 00	20 00
301	Other	10 00	25 00
302	Of more than one colour	13 00	35 00
Cardboard, weighing per square metre:			
303	From 200 to 300 grammes inclusive	12 00	50 00
304	More than 300 grammes	12 00	35 00
(NOTE.—Paper weighing less than 200 grammes per square metre is included in Nos. 300-302.)			
(ii) Having undergone some additional process since manufacture.			
305	Ruled paper and board	12 00	35 00
Cardboard (paper):			
306A	Coated with chalk or covered with chalk-coated paper	8 00	25 00
306W	Worked in colours, with impressed designs	10 00	25 00
Papers and board:			
306c	Coated with chalk on one side only, worked in colours, plain	10 00	30 00
306b	Coated with chalk on one side only, not worked; coated with chalk on both sides or covered with chalk-coated paper; crinkled, perforated paper; gummed paper; non-sensitised paper	15 00	40 00
306e	With impressed or coloured designs (shagreened, watered, embossed)	10 00	20 00
(NOTE to Nos. 305-6.—Paper of the kinds specified above, with graphic signs, is dutiable, according to kind, under Nos. 312-318.)			
307A	Oiled paper, paraffin-coated paper, tracing paper and waxed paper	20 00	40 00
307B	Tin foil paper	5 00	20 00
307c	Parchment and parchmented paper and imitations thereof	10 00	25 00
307D	Chemically-prepared paper and sensitised paper	20 00	40 00
308	Paper and board cut into strips less than 25 centimetres wide, even if in rolls	16 00	50 00
309	Paper and board made up for retail sale	25 00	50 00
310	Cardboard covered with natural-coloured paper	8 00	25 00
311	Paper not elsewhere specified in the General Tariff, combined with tissues	16 00	40 00

THE Howard Smith Paper Mills (Montreal) announce the opening of their new bleached sulphite mill at Cornwall, with a capacity of 70 tons of sulphite per day, manufactured from pulpwood cut on the limits the company purchased last year in the Gaspé Peninsula.

THE CANADIAN PULP AND PAPER TRADE,

THE *Chamber of Commerce Journal*, referring to the pulp and paper industry in Canada, states:—"The year 1920 was in every way an extremely satisfactory one for the pulp and paper industry in Canada. The year was one of steady expansion. The gradual depletion which the world's stores of pulpwood are undergoing, and the continually increasing demands from the United States, Europe, and the East, have combined to make this industry a more important factor in the Dominion's industrial life, and the tangible results of the past year are only eclipsed by an indubitably bright outlook. According to *Agricultural and Industrial Progress in Canada* (Montreal) the total exports of pulp and paper for 1920 were valued at \$163,217,988, as compared with \$96,376,664 for 1919. If to this were added pulp wood exports, the value of all three would be \$178,006,159, as against \$106,969,000 for the preceding year. Exports of paper, the most important item in the year's manufacture, amounted in value to \$86,744,010, as compared with \$59,391,000 in 1919. Wood pulp, second in importance, was shipped to the extent of 16,399,897 cwt., valued at \$76,383,978, as against 14,182,533 cwt., of a value of \$50,796,660, in the previous year. Pulp wood exports amounted to 1,248,395 cords, valued at \$15,778,171, compared with 1,060,275 cords, valued at \$10,593,581, in 1919. Shipments of newsprint, which in the previous year totalled 14,192,556 cwt., valued at \$50,796,661, reached 15,238,891 cwt., of a value of \$72,920,223. Export demand for the higher grades of pulp and for newsprint paper exceeded the supply throughout the year. Exports to the United Kingdom during 1920 were valued at \$13,417,574, wood pulp at \$8,543,119, and paper of all kinds at \$4,874,455. In the preceding year the total exports were \$8,522,738, divided into wood pulp \$4,715,465 and paper \$3,707,273. The United States took about 80 per cent. of the pulp and paper exported from Canada during 1920, while the exports to all other countries increased by about 75 per cent. as compared with 1919. In addition to a substantial increase in the export business, a noticeable feature recorded was the number of new enterprises planned and begun, as well as the expansion of several of the older companies. In this connection no statistics are available for 1920, but at the end of December, 1919, there were 99 plants, of which 33 made paper only, 39 pulp only, and 27 pulp and paper. Great interest was shown in the pulp supplies of British Columbia during the year, while developments also occurred on Vancouver Island and at Prince Rupert."

CANADA AND THE RESTRICTION OF EXPORTS OF PULP WOOD.

AMONG pulp and paper men in Canada, as well as among politicians, it is considered very regrettable that a resolution should have been passed in the United States Senate authorising the President to open up negotiations with Canada for the abrogation of Dominion Provincial regulations for restricting exportation of pulpwood (says a Montreal correspondent to the *Paper Trade Journal* (New York). As has been stated previously, there is not the slightest possibility of the present embargo on the export of pulp wood from Crown lands being lifted. From privately-owned lands pulp wood may be exported freely, and indeed is being exported in large quantities to the United States. The Dominion Government has no power

over the disposition of the products of the forests. Under the British North American Act, each Province has full control over its own natural resources, with the exception of the Prairie Provinces which were not formed at the time of Confederation. The Provincial regulations for restricting the export of pulp wood are imposed by the Provincial Governments. They are not in the nature of an embargo as such, but are a condition in the leases granted to those who are allowed to cut timber on the Crown lands. As far as Quebec Province is concerned, there is absolutely not the slightest possibility of these restrictions being abrogated. The people are all in favour of prohibiting any of the Crown lands timber from being cut for export in the raw state. It is thought that the resolution passed in the American Senate was intended to forestall, if possible, any further restrictions on the export of pulp wood. But if there is any hope that the present restrictions will be lifted, then those who entertain such a hope are doomed to disappointment.

WAGES IN THE PAPER TRADE.

AGREEMENT ARRIVED AT.

THE result of the meeting of the Joint Industrial Council at Manchester is that the members of the unions concerned have agreed to accept the terms proposed by the Joint Industrial Council, which embrace the following conditions governing the wage reductions:—

"That when the cost of living figure falls to 115 one month's grace shall be given before the reductions of 1½d., etc., come into force.

"That when the cost of living figure falls to 100 one month's grace shall be given before the further reductions of 1½d., etc., come into force.

"That if, during the month's grace, the cost of living figure rises again above 115 or 100, as the case may be, the reductions of 1½d., etc., shall not come into force.

"That if the cost of living figure rises to 130 the increases of 2d., etc., shall come into force without the month's delay.

"That if the cost of living figure, after falling to 115, rises above that figure again, the increases of 1½d., etc., shall come into effect without the month's delay."

In the course of an interview with our representative, Mr. T. G. Newland, General Secretary of the National Union of Printing and Paper Workers, said the position was distinctly encouraging, and if the employers kept to their promise the reductions in wages should have the effect of reducing the cost of paper.

Asked whether the wages were likely to remain at the present rate, Mr. Newland said that it all depended on the cost of living; as far as he could see, the figure, which was now at 119, would probably rise within the next month or so, as so many commodities were daily rising in price, while those on which there was much reduction were principally luxuries not used by the average working man.

Mr. Newland also stated that the employers gave them a definite assurance that they had no intention of reverting to pre-war conditions. This the workers had feared was their ultimate aim. So that now, with the settlement of the coal strike, there was no reason why there should not be a steady revival of trade. Mr. Newland contended that the wages in the paper trade were not abnormally high as compared with those in other trades, and if employers want efficient and capable workmen they would find it more satisfactory to pay for them at a reasonably high wage.

NEW PATENTS.

AN IMPROVED PAPER PULPING ENGINE.

No. 150,341, May 26, 1921.—EMILE MASSART, a French citizen, of rue de Roncq, Bousbecque, Nord, in the Republic of France, and OCTAVE MASSART, a French citizen, of 33, Grand 'Rue, Bavai, Nord, aforesaid. This invention relates to a paper pulping engine and more particularly to a pulp refining engine of the kind in which several cylinders are employed working in the same trough or vat. Hitherto in pulping engines of this kind each cylinder has worked in an absolutely independent manner relatively to the other cylinders, either for the purpose of obtaining continuous work such as might be obtained by a series of successive engines, or for the purpose of obtaining a multiple action upon the pulp circulating in a vat of ordinary form. All these pulping engines, generally speaking, have the same defects. The pulp only circulating in the trough or vat at a minimum speed, can only enter the recesses in the cylinders under the effect of the pressure resulting from the height of the pulp which is in front of the cylinder, and this results in an imperfect filling of the said recesses and considerable retardation of the cylinder, involving loss of power.

The invention has mainly for object to remedy this defect, that is to say, to obtain a neutralisation of the centrifugal force and a perfect filling of the recesses in the cylinders, and of effecting a more complete trituration of the pulp and, at the same time, a saving of power by diminishing the retarding effect of the pulp on the different cylinders.

To this end the pulp refining engine forming the subject of the invention is mainly characterised by the juxtaposition of two or more cylinders and their co-operation with scrapers and caps and projections on the bottom of the vat, so as to cause the pulp, carried along by the recesses of the first cylinder, to be transferred to the following cylinder at a speed equal, or approximately equal, to the peripheral speed of the cylinders.

In these conditions, each cylinder directly co-operates with the neighbouring cylinder or cylinders to reduce the retarding action of the pulp upon the said cylinders, to resist the action of the centrifugal force opposing the filling of the recesses, and to effect an essentially novel trituration of the pulp at the moment when it mixes with the return pulp from the following cylinder. Independently of this main characteristic the improved paper pulping engine is provided with a regulating sluice-valve co-operating with the first cylinder so as to avoid the retarding action of the pulp upon the said cylinder, and with a special arrangement of projection or elevation combined with a suitable inclination of the bottom of the trough or vat so as to create a practically similar slope upon the outer and inner lines of the bottom of the trough or vat.

IMPROVEMENTS IN AND CONNECTED WITH THE DRIVING OF PAPER MACHINES.

No. 164,123, June 2, 1921.—FRANK GREAVES WARBURTON, of 5, Chancery Lane, London, W.C.2. In a paper-making machine a couch roll and a breast roll are provided over which passes a woven wire in the form of an endless belt; which receives the paper stock, and therefrom the liquid is removed sufficiently to prepare a layer of paper. The run of the belt passes above and below over various devices which create a considerable drag on the belt, which wears out the wire screen in a comparatively short time and as the same is expensive the wearing out of the wire belt has added very materially to the cost of the paper. Hitherto, as far as I am aware, it has been impossible to drive the breast roll, although the driving of the breast roll has been recognised as a desirable object, for the reason that the driving of the breast roll could not be achieved with due harmony with the couch roll and the result would be an uneven layer of wire on the upper run and a consequent destruction of the paper layer formation. In accordance with my invention the foregoing difficulties are largely overcome by the provision of means for correlating the rotations of the breast roll in harmony with the couch roll, independent means preferably being provided for driving both the breast roll and the couch roll.

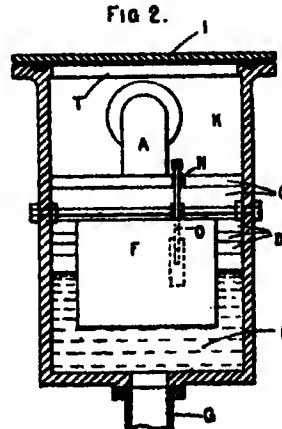
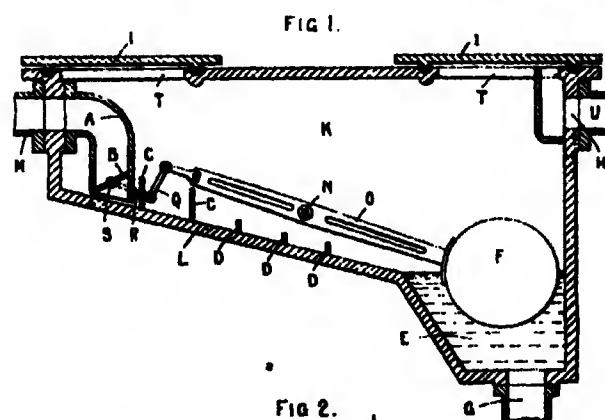
IMPROVEMENTS IN THE MANUFACTURE OF PAPER.

No. 163,421, May 9, 1921.—JAMES RAYMOND BLACKBURN FARNLEY, paper mill manager, of the Hayes, St. Mary Cray, Kent. The complete specification states:—It is a well known

fact to paper-makers that the froth which separates from the pulp is a source of serious trouble and waste. This froth is probably formed by the separation of small bubbles of air or other gases which have become entangled among the fibres of the pulp. According to this invention it is proposed to prevent the formation of froth by submitting the finished and diluted pulp to the action of a vacuum of suitable strength, preferably in a vacuum chamber, and preferably immediately before it flows on to the wire of the paper-making machine. When a vacuum chamber is used a continuous introduction of the pulp into the chamber and a continuous removal of the pulp therefrom may be obtained in many different ways.

According to one method the vacuum chamber may be placed at a suitable height and the pulp may be admitted and discharged by means of a syphon arrangement. The rate of flow through the apparatus may, if necessary, be regulated by suitable automatic valves controlling the admission or the discharge pipe or both pipes.

According to a second method the pulp may be fed into the chamber and discharged therefrom by two separate pumps, which may be coupled together in order to reduce the power



required for driving pumps. The coupling of the pumps may be such that the suction of the vacuum on the outlet side be counter-balanced by the pressure of the atmosphere on the inlet side, so that theoretically the power required is only that necessary for circulating the pulp.

According to a third method the pulp may be fed into the vacuum chamber by atmospheric pressure and caused to flow through an automatic valve which may be controlled by a float or floats so as to maintain a more or less constant level within the vacuum chamber. The pulp may be discharged by a suitable pump, which may be of the rotary type, and the discharge may be regulated in any suitable manner to maintain the uniform flow required for the paper-making machine.

Or, the methods mentioned above may be combined either in their entirety or as regards particular features thereof. In all cases the vacuum in the vacuum chamber may be maintained by a suitable vacuum pump. The pulp may enter and pass through the vacuum chamber in a solid flow, or may by suitable means be caused to assume the form of a spray or a thin film during part or the whole of its passage through the chamber, in order to facilitate the disengagement of the bubbles. The

accompanying drawings show by way of example an apparatus suitable for carrying out the invention: Fig. 1 is a longitudinal section; Fig. 2 is a cross section of the apparatus.

The vacuum chamber comprises a casing K provided with an inclined bottom portion L leading from the entrance end to a well E situated at the exit end of the stuff. At the entrance end is arranged an inlet pipe A which communicates with a pipe M leading from the strainer, and extends downwardly close to the inclined bottom L. In the pipe A is arranged a regulating valve B adapted to regulate the admission of stuff to the vacuum chamber. This valve B is automatically controlled by the level of the stuff in the well E through a float F, a lever O pivoted in the casing at N, a link Q and an arm R on the shaft S of the valve C. C are sluices or baffles for spreading the pulp evenly over the whole width of the bottom L. They extend over the whole width of the bottom and are provided with a number of holes adjacent to the bottom, or are stopped at a short distance above the bottom, so that the pulp is somewhat stemmed up and spread transversely. D, D, D are low baffles which cause the pulp to flow over and tumble and thus help in the disengaging of air or gas bubbles. These baffles may also be arranged horizontally. T, T are portholes, closed hermetically by covers I, I. H is an opening communicating by tube U with the vacuum pumps. G is a pipe leading from the bottom of the well to the pumps, preferably a centrifugal pump, which raises the pulp and delivers it to the paper-making machine.

The pump may be provided at the discharge end with a regulating valve adapted to maintain a constant flow of pulp to the paper-making machine.

The operation is as follows:—

The pulp flows from the strainers through pipe M and elbow piece A into the vacuum chamber, the admission being regulated by float F and valve B to maintain an approximately constant level in the well E. The pulp is freed from air and gas bubbles owing to the action of the vacuum maintained in the apparatus by the vacuum pump, and is drawn from the well E and delivered to the paper-making machine.

The vacuum chamber may be placed on the ground level or at a higher level so as to reduce the power required by the pump for extracting the pulp from the vacuum chamber, the pulp being sucked up into the vacuum chamber by the vacuum and the height of pulp from the well level to the pump partly overcoming the strength of the vacuum in the pump itself, thereby reducing the power required to pump the stuff from the vacuum chamber.

I am aware that it has hitherto been proposed to effect the beating, disintegrating, bleaching and mixing of the raw materials used in the manufacture of pulp in a hermetically sealed vessel under pressure or under vacuum, or both successively, and it has been suggested that owing to the impossibility of air being drawn into the mass by the disintegrator, the usual frothing seen on the paper machine may be entirely avoided.

IMPROVED MACHINERY FOR THE MANUFACTURE OF PARCHMENT, ETC.

No. 164,478, June 6, 1921.—JAMES CARRADICE, of 39, Franche Court Road, Earlsfield, London, S.W.17, paper-maker. This invention relates to that class of apparatus for making vegetable parchment paper and in which the web paper is passed under a roller in a bath containing sulphuric acid and then out of the bath through squeezing rollers to return the surplus acid to the bath the paper passing onward through various baths and rollers in a zigzag manner and on its journey subjected to various sprays of water so that any remaining free acid is completely washed out of the paper. In such class of apparatus the roller in the sulphuric acid bath is fixed and in consequence considerable difficulty is experienced by the paper becoming slack and not running through the apparatus or plant properly and to remedy this my invention consists in providing in the first or acid bath an adjustable dipping roller which engages the paper between the entering rollers and the first squeezing rollers and can be so positioned as to take up any slack in the paper and in combination with this adjustable roller the other various baths are provided with rollers so positioned that the paper is caused to travel forwardly and backwardly through the baths.

Wilhelm Hjorth

STOCKHOLM
Smålandsgatan 2

Cables :
RAGNAR

Exporters - - Importers

Paper, Boards and all kinds of Pulp

CODES USED : A.B.C. 5th Ed. ; Lieber's Five Letter ; Western Union ;
Carlowitz ; Private.

CITY AND GUILDS OF LONDON INSTITUTE.

REVISED REGULATIONS AND SYLLABUS FOR EXAMINATION IN PAPER-MAKING.

The revised regulations and syllabus for examinations in papermaking, recommended by the Technical Section of the Papermakers' Association and adopted by the City and Guilds of London Institute, are as follows:—

PAPER MANUFACTURE.

The examination in Grade 1 is intended to test the candidate's detailed knowledge of the every-day processes and machinery of the paper mill, and also his general knowledge of the elementary but fundamental principles of chemistry, physics and engineering in their application to paper manufacture.

The final examination is intended to test the technical knowledge of those who wish to make themselves competent to undertake the management and direction of first-class paper mills or to specialise on the engineering or on the chemical side of the industry. In accordance with the above purpose, the question paper set at the final examination will be divided into three sections, A, B and C. Each candidate will be required to attempt four questions which will be obligatory in Section A, upon those subject-matters which are printed in italics in the syllabus. A candidate will also be expected to attempt four other questions which the candidate must select from either Section A, or Section B, or Section C, according as he intends to specialise, (A) in technical paper manufacture, (B) on the engineering, or (C) on the chemical side. No candidate may answer questions in more than one section in addition to the above-mentioned obligatory questions. A provisional final certificate will be awarded to candidates who satisfy the examiners both in the obligatory questions of Section A, and in the further questions in Section A, B or C selected by the candidate, and will bear a statement of the section in respect of which the candidate has been successful.

A candidate who has passed in the first class in one section will be permitted to present himself for examination in another section in a subsequent year.

Candidates who have already obtained a prize in one section of the final examination will not be eligible to receive another prize in another section, but if they reach the standard required for a prize their certificate will bear a statement to that effect.

SYLLABUS.

The examination will include questions founded on the following subjects:—

GRADE I.

1. Fibre-yielding raw materials. Chemical and structural features. Celluloses and compound celluloses.

2. Mechanical preparing processes. Sorting, picking, cutting, dusting.

3. Boiling processes. (A) Alkaline treatments. Theory of action. The various types of boilers or digesters for rags, esparto, straw, wood. (B) Acid processes. The bisulphite system of wood treatment. (C) Treatment of waste papers, "broke," and air-dry pulps.

4. Washing processes. Special methods directed to economical recovery of chemicals. Breaking engines: Construction and working.

5. Bleaching processes. Chemistry of hypochlorites and their action; electrolytic processes of production. The variations of bleaching methods commonly practised. Auxiliary agents and their effects. Theory of and conditions affecting economy of process and permanence of bleaching effects.

6. Beating process. Construction and working of beaters

The factors of the treatment considered in relation (A) to the working of the pulp of the machine (B) to the structure and mechanical properties of the finished web of paper.

7. Methods of dyeing. Mineral, natural and artificial colouring matters.

8. Methods and theory of sizing processes. Engine sizing. Rosin size: Preparation and composition. Starch, casein. Alum and sulphate of alumina. Loading and colouring. Tub-sizing. Preparation of gelatine size.

9. The paper machine and its adjuncts. Stuffcheats, strainers, sand tables, the wire, conch and press rolls, felts, drying cylinders. Adjustments of speed. Backwater. Effects of rapid and slow drying. Water marking. The hand-making process. "Board processes."

10. Calenders. Appliances for damping. Effects of calendering upon the mechanical properties of the paper. Plate-glazing.

11. Elementary knowledge of the properties of steam. Principles of combustion. Elementary theory of steam and other heat. Engines. Elementary knowledge of physics.

12. Treatment and utilisation of waste products and spent liquors. Soda recovery. Principles of multiple effect evaporation.

13. The various classes of paper in relation to composition and trade uses. Sizes and weights.

14. The laboratory. Methods of sampling for analysis. Qualitative examination of papers to determine composition, pulp, sizing, loading. Estimations of moisture and ash. Determination of specific gravities by weighing and by hydrometers. Mechanical properties of papers; quantitative measurements.

FINAL EXAMINATION.

Candidates for the final examination at centres outside England and Wales must have fulfilled the conditions of Regulation 11.

In the final examination more difficult questions will be set on the above subjects, and in addition a knowledge will be required of:—

1. The mill; site; arrangement of buildings, plant and machinery. Desirable features in each. Water supply. Treatment of waste waters and utilisation of by-products. Sewage.

2. Steam boilers. Types of and requirements for economical steam production. Economisers. Superheaters. Utilisation of condensates. Water softening. Generation and distribution of power by steam and electricity. Application of electrical machinery. Direct current and alternate current transmission systems. Lighting. Performance of steam boilers, engines and turbines. Lubrication. Principles of heating and ventilation. Design of plenum, exhaust and balanced systems. Hydraulics. Method of measuring the flow of water. Centrifugal pumps. Water turbines. Reciprocating pumps. Representation of data by graphs.

3. Costs of production in relation to raw materials, labour, chemicals, power and output. Principles of works organisation and arrangement. Direct and indirect charges.

4. Principles of general and physical chemistry as applied to paper manufacture. Elementary botany and plant structure.

5. Laboratory work; methods of estimating cellulose; valuation of raw fibrous materials. Chemical characteristics of celluloses and compound celluloses. Test solutions and their preparation. Quantitative estimation of acids, alkalis, hypochlorites, sulphites and bisulphites (sulphurous acid), sulphates of alumina. Comparative colouring powers of dyes and pigments. Chemical methods generally required for the routine of the mill.

6. Microscopic features of fibres in relation to paper-making value; quantitative analysis of papers (pulp) by microscopic methods. Valuation of fibrous raw materials

7. Special varieties of papers: blottings, vegetable, parchments, imitation parchments, filtering papers, enamel papers, waxed papers, waterproof papers, "safety" cheque papers, drawing papers, photographic papers.

8. Recent researches on papermaking problems and development of new mechanical methods applicable to paper manufacture.

A candidate who has obtained a provisional certificate of the first class on the results of the final examination in one of the Sections, A, B or C, and who also holds a provisional certificate in one of the two remaining sections of the final examination will be entitled to the award of a full technological certificate in respect of the section in which he first obtained his certificate of the first class.

COMMERCIAL ARBITRATION.

On the 13th ult., at the invitation of the Lord Mayor (Alderman James Roll), the Chairman (Col. and Ald. Sir Vansittart Howater, Bart.) and members of the London Court of Arbitration, which is conducted under the management of the Corporation of the City of London and the London Chamber of Commerce, were entertained to luncheon at the Mansion House.

The Lord Mayor, in proposing the toast of "The Chairman and Members of the London Court of Arbitration," referred to the fact that the Court was reconstituted in 1905 and took the place of a similar body composed exclusively of members of the Corporation which had been at work since 1892. The rules and procedure of this old body had been revised and brought into harmony with modern requirements. The Court's aim was to provide a general tribunal to determine promptly, cheaply and efficiently any of the multifarious questions which arose in the ordinary course of business. At the same time it furnished the means of supplementing, on an independent and neutral basis, provisions which might have been made for arbitrations in organised trades. (Applause.)

Col. and Ald. Sir Vansittart Howater, Bart. (Chairman of the London Court of Arbitration) replied to the toast, and stated that the Court, which was doing a great amount of good work at very little expense, was composed of equal numbers of the Corporation of the City of London and the London Chamber of Commerce. It met regularly, and had the assistance of the leading experts in practically every business in the country. (Hear, hear.) The Court was particularly anxious that awards made in this country should be acknowledged in our colonies and in all foreign countries with which we did business, and everything possible would be done to bring this about. London had taken the lead in arbitration, and it was their desire to keep that lead. (Hear, hear.)

On behalf of the members of the Court of Arbitration, the Lord Mayor presented to Mr. R. A. Patterson (late chairman) a handsome silver rose bowl as a mark of appreciation of his distinguished services as deputy-chairman and chairman of the Court from 1917 to 1921.

In accepting the gift, Mr. Patterson called attention to the fact that the Court of Arbitration had improved its position and widened its circle of activities. He was of the opinion that if they could get their awards acknowledged in Germany and the United States, there was no reason why the same should not apply to every one of our Overseas Dominions. (Hear, hear.)

The first practical use of paper made in Western Australia by the Forest Product Laboratory was for the printing of double-card invitations to the opening of the Forest Products Exhibition on June 13. The paper was of karri pulp, and being unbleached, was pale yellow.

AUSTRALIAN NEWS.

Tasmania's Raw Material.

THE question of making paper from Australian timbers has been revived as a result of a discussion at the provincial press conference recently held in Melbourne, and representations will shortly be made to the State Government with a view to having a further test made of Tasmanian woods. It is contended that the Tasmanian Government should bring under the notice of the Commonwealth Government the suitability of local timbers or paper-making.

Australian Paper Contract.

A BILL for £100,000 has made its appearance in Australia for paper supplied by contract from an English firm to the Australian Government. The contract was made in 1914, but on the outbreak of war the contract was not nearly completed, and recently the balance left over has been unloaded on the Government just when it is making great efforts to save money and economise. It is rumoured that some solution to the problem is forthcoming, and the sum may possibly be cut down somewhat.

American-made Drafts.

A CORRESPONDENT writing to *Smith's Weekly* says the following:—"Every month or so my firm receives a draft form from the New South Wales Treasury. The draft is on pink paper elaborately decorated with the Commonwealth Coat of Arms and with 'Advance Australia' prominent in several places. Equally prominent is the slogan 'Made in U.S.A.' Surely the country boasts a printing press and litho machinery without going over to Uncle Sam. If not, what is wrong with England?—"Imp" (N.Z.)

Hardwoods for Paper-making.

EXPERT opinion in America and other countries does not support the theory that newsprint and other paper can be made satisfactorily from hardwood; but Mr. I. H. Boas, for some years in charge of paper-making experiments at the Commonwealth forest products laboratory in Western Australia, disagrees with that view. In a lecture delivered before the students of chemistry, he stated that tests had shown that excellent paper could be made from Australian hardwoods. Mountain Ash and Queensland silky oak had given best results. Mr. Boas expressed the opinion that while imported paper was more than £20 per ton Australian manufacturers should be able to compete successfully for some of the trade. The present price of imported newsprint in Australia is greatly in excess of £20 per ton, and Mr. Boas considered that it will remain high for many years, owing to the fact that supplies of soft woods used in its manufacture are rapidly diminishing.

Papuan Paper.

SINCE paper soared to such high prices, Australia has been trying to find means of making the commodity herself and so enable her to be somewhat independent of the overseas market; so far, however, the experimental stage only has been reached. Mr. A. Gibson, of the Scottish Commercial Union, stated recently that he was prepared to guarantee to produce 500 tons of paper per week from palm leaves and 3,000,000 gallons of motor spirit from palm fruit per year. This statement, coupled with one to the effect that Mr. Gibson has applied for the right to use the Nipa palm on the delta of the Fly river for the production of paper pulp and motor spirit, has caused no surprise among Sydney paper merchants. The Secretary of the Cumberland Paper Mills stated that his firm knew Mr. Gibson, and was aware of his investigations, but on the merits of his project he was not prepared to speak. He also stated that they had been conducting extensive inquiries in Papua themselves and had actually made paper from the Nipa palm.

BORN 1891.

NOW IN THE PRIME OF LIFE !

VARCOE & SONS
ESTABLISHED 1894. LTD.
Head Office:—ST. AUSTELL, CORNWALL.
Also Office at:—STOKE-ON-TRENT, MANCHESTER and BRUSSELS.

ENGLISH CHINA CLAYS LTD.
ST. AUSTELL, CORNWALL.
LARGEST CHINA CLAY PRODUCERS in the WORLD.

CHRISTIE'S
MACHINE
ANY WIDTH UP TO 210".
SPECIAL RUBY METAL.

EXTRA STRONG GABLE OR TWISTED WIRES
(TINNED AND UNTINNED)
WOVE, SPIRAL AND LAID
DANDY ROLLS
(PLAIN AND WATERMARKED)
WASHER WIRE AND FINE CLOTHS

London Office: 100, Bishopsgate, E.C.2.
Noted for Long Life, Smooth Running, Fine Finish, Flat Edges, Special Mangle.
Telegraphic Address: "LAWYELL," GLASGOW.

GEO. CHRISTIE, LTD. LAWYELL WORKS, GOVAN, GLASGOW.

The International Number of "THE PAPER-MAKER"
is the Globe-trotter of the Paper Trade.

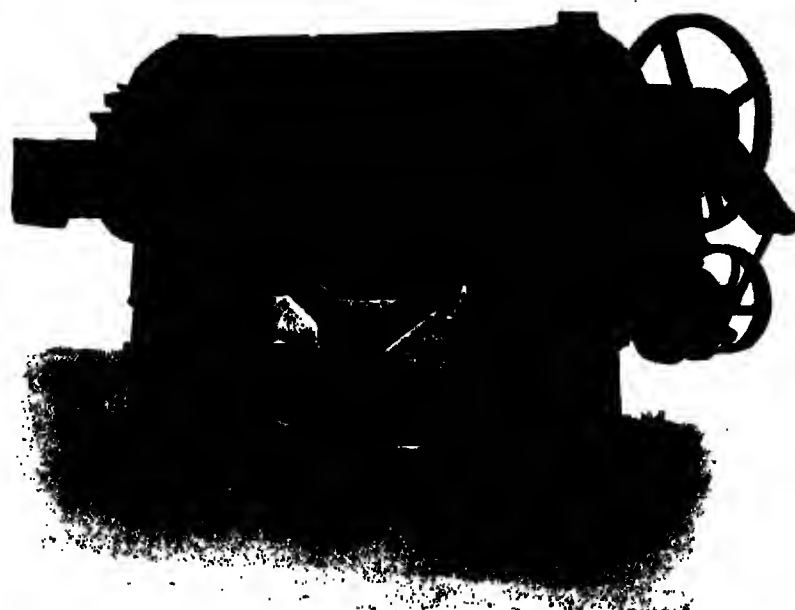
EVERY EXPORTER SHOULD BOOK
ADVERTISING SPACE IMMEDIATELY

S. C. PHILLIPS & CO., 47, Cannon St., LONDON, E.C.4.

JAMES BERTRAM & SON, Ltd.,

Leith Walk,
EDINBURGH.

Speciality :
PAPERMAKING MACHINERY.



OUR PATENT ROTARY DRUM STRAINER

is the best apparatus now at work. It is absolutely noiseless, works in oil, and needs no attention and few repairs. Stroke can be regulated while at work. Over 200 now running with great success.

Telegrams: "BERTRAM, LEITH."

Telephone No. 521, LEITH.

THE MARKETS.

(For Wood Pulp Markets see page 232.)

ESPARTO.

Messrs. Ide & Christie's Monthly Circular, dated July 15 last, states:—No improvement in demand.

IMPORTS AND CONSUMPTION—

	Month Ending June			Six Months Ending June.		
	1913.	1920	1921	1913	1920.	1921
From Spain	3,587	8,910	1,581	21,813	33,197	11,083
From Algeria	6,936	7,504	2,269	61,010	24,344	15,916
Other Countries	6,495	8,882	1,218	37,352	28,075	11,497
	17,018	25,296	5,068	120,175	85,616	38,496

CURRENT PRICES C.I.F. U.K. PORTS.

	£	s.	d.	£	s.	d.
Oran, fair to good..	4	10	0	6	0	0
Bona & Phillipeville, gd. av.	4	10	0	6	0	0
Sfax and Gabes ..	4	10	0	6	0	0
Tripoli, fair average ..	4	10	0	6	0	0
hand-picked ..	4	10	0	6	0	0
Spanish ..	11	10	0	14	0	0

HOME RAGS.

LONDON.—The demand continues small, and the following quotations are purely nominal:

Fines (selected)	..	..	per cwt.	38s. 6d.	to	—
Outshots (selected)	..	..	..	25s. od.	..	—
Seconds (selected)	..	..	..	20s. od.	..	—
Seconds (country)	..	..	..	14s. od.	..	—
Thirds ..	..	..	..	—	..	6 6
Prints (old)	..	..	..	—	..	16 6
dark ..	..	..	..	—	..	8 6
No. 1, Canvas ..	..	..	..	36s. od.	..	40 0
2, " ..	..	..	..	26s. od.	..	32 0
3, " ..	..	..	..	—	..	12 6
Common Jute Rope ..	..	..	..	10s. od.	..	12 6
Clean Gunny ..	..	..	..	7s. od.	..	9 0

EDINBURGH.—Our Edinburgh correspondent states that there is a decidedly better feeling prevailing with regard to home rags, even waste papers being more freely enquired for, and fair quantities of both are now moving off.

FOREIGN RAGS.

LONDON.—Trade continues to be quiet, with little demand.

No. 1 White Linens	..	per cwt.	£2 16 0	to	£3 5 0
2 " "	..	..	2 6 0	..	2 10 0
3 White Linens	..	..	1 16 0	..	2 0 0
1 White Cottons	..	..	2 0 0	..	—
2 White Cottons	..	per cwt.	1 15 0	to	—
3 " "	..	..	1 10 0	..	—
Old Grey Linens ..	..	per cwt.	3 0 0	..	—
Coloured Cottons ..	..	..	1 3 0	..	—
Housecloths ..	..	..	0 16 0	..	—

CHEMICALS.

A somewhat better enquiry is reported, and an improvement in demand.

Alum., best lump, in tierces F.O.B., at makers works	..	..	..	ton	£18 10 0
Do., ground in bags ..	..	..	..	..	19 0 0
Alumina, Sulphate of, 14 per cent.	..	..	..	..	13 0 0

Bicarbonate of Soda, carriage paid ..	ton	£12 0 0
Ammonia Alkali, on rails makers' works.	..	8 15 0
Bleaching Powder, 35 per cent., carriage paid	..	16 0 0
Caustic Soda white, 70 per cent. carriage paid (net)	..	25 10 0
Caustic Soda, white, 60 per cent. carriage paid (net)	..	24 10 0
Soda, Crystals, bags, carriage paid ..	..	7 0 0
Potash Bichromate ..	lb.	0 0 9½
Potash, Yellow Prussiate ..	..	0 2 0
Soda Bichromate ..	..	0 0 7½
" Prussiate ..	..	0 0 8
Sulphur (Rock Brimstone) ..	ton	11 0 0
(Roll Brimstone) ..	..	17 10 0
White Lead (English) ..	..	52 0 0
Chlorate of Potash, in kegs, F.O.B.	lb.	0 0 7
" Soda ..	..	0 0 5

MINERALS, ETC.

Ochres, English and Irish ..	ton	£12 10 0*
Umbers. (Brown and Green Shade)	..	11 0 0
Reds, Venetian ..	..	12 5 0
" Turkey ..	..	60 0 0
*Other prices according to shade, quantity, and quality.		
Black, Mineral ..	ton	£10 10 0
" Carbon (pure) ..	..	116 0 0
Pulp, Black ..	..	24 0 0
Brown, Soluble (Crystals)	..	17 0 0
" (Pulp) ..	..	10 0 0
Yellow, Imperial ..	cwt.	1 12 0
Blue Paste (pure) ..	..	24 0 0
Yellows, Lemon, Orange (pure)	..	5 0 0
Mineral White, Superior No. 1 ..	ton	3 15 0
" " " " 2 ..	..	2 5 0
" " " " 3 ..	..	1 10 0
Barytes, Best White ..	..	13 0 0
All F.O.R. Makers' Works, net.		

China Clay of various qualities for all purposes; prices from 35s. to about 75s. per ton f.o.b. Cornwall.

SIZING MATERIALS.

Fine Skin Glue ..	cwt.	£6 0 0
Common Glue ..	..	£3 10 0 to £3 15 0

There is still a fairly good demand for materials at the same prices.

ROSIN.

Since our last advices the market remains unaltered as regards prices, but the tendency is unmistakably firmer. To-day the values are:—American "B," 17s.; "F.G.," 18s.; French "F.G.," 16s. 6d. Ex-wharf London, usual terms and conditions.

We have received a copy of the *North China Daily News*, published at Shanghai, which is interesting from the fact that its daily average circulation during the month of April was 4,092, and that its price is 28 dollars per annum payable six months in advance. It is printed on excellent paper and its pages are somewhat larger than the *Times*; whilst the issue received numbers 18 pages. The journal contains some 12 pages of advertisements, and is printed entirely in English.

EBURITE PAPER CO. ^{LD} AMBERLEY WHARF, PADDINGTON, W. 9.

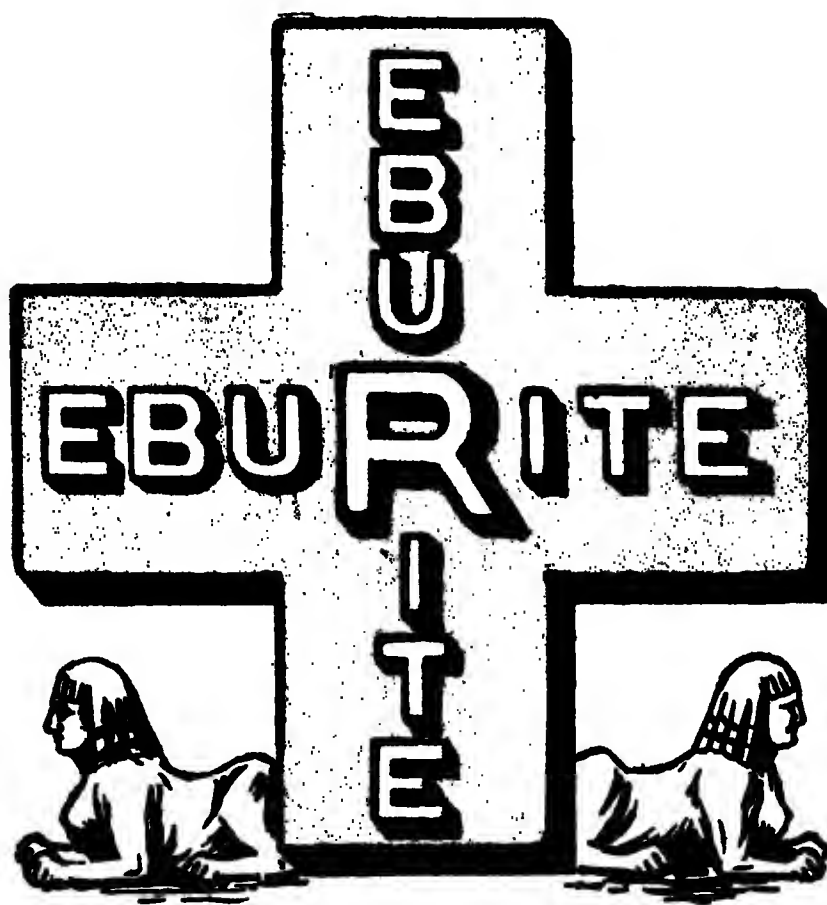
WAXED PAPERS

- " Pieces
- " Parchments
- " Tissues

MANUFACTURERS

CORRUGATED PAPER

- " Boxes
- " Cartons
- " Rolls
- " Pieces
- " Greaseproof



FANCY PAPERS

- Crinkled Papers
- Crepe Papers
- Shelf Papers
- Shavings

EBURITE PAPER CO. ^{LD} AMBERLEY WHARF,
PADDINGTON, W. 9.

FINANCE.

The third change in the course of current year was announced on the 21st ult., when the directors of the Bank of England decided to reduce their minimum to 5½ per cent.

The accounts of the first half of 1921 will not provide very cheerful reading for shareholders. The most important report is that of Messrs. Edward Lloyd, Ltd., and notwithstanding the fact that they are comparatively in a fortunate position as regards business in hand the unprecedented difficulties have had a marked effect on the earnings. Everything considered, however, the report is a very sound one, and the directors as usual, are taking a judicious and conservative course. It is significant, that, generally speaking, the prices of paper mill holdings are well maintained, although some quotations appear to be very low considering the recent records of the companies concerned. The report states that the profits, after allowing for capitalisation expenses, depreciation, making provision for bad and doubtful debts, estimated Excess Profits Duty, Income Tax, Corporation Profits Tax and contingencies, amount to £110,876 7s. 10d., making, with the balance brought forward from the previous year (less the amount capitalised), £10,076 16s., a total of £120,953 3s. 10d. After deducting interest on pension account, directors' and auditors' fees, head office and transfer office expenses (£7,201 1s. 6d.), dividend on the preference shares (£42,187 10s.), and interim dividend on the ordinary shares at the rate of ninepence per share (free of income tax), paid January 29, 1921 (£45,000), there remains a balance of £36,464 12s. 4d. The directors recommend the declaration of a final dividend for the year on the ordinary shares at the rate of threepence per share (free of income tax), making 5 per cent. for the year (£15,000), carrying forward to the next account £21,464 12s. 4d. The profits for the year, after making provision for company expenses, show a decrease of £105,236 4s. 9d., as compared with 1919.

It is announced that the directors of the British Dyestuffs Corporation regret that in view of the unsatisfactory trading results for the half-year ended April 30 last, due to the general depression in the textile and other colour-consuming trades, they are unable to recommend the payment of an interim dividend on the Preference shares in respect of that period. For the year to the end of October last the company paid 8 per cent. on the preferred ordinary shares in addition to the preference dividend and carried forward £203,304.

The accounts of Messrs. Ewart & Collis, Ltd., for 1920 show a net loss of £44,459, inclusive of the directors' fees, £1,093, and a dividend on the preference shares for the year (including tax), of £15,158. The directors' report states that under the circumstances no dividend on the ordinary shares can be paid. A committee of enquiry was appointed at an extraordinary meeting of the company on the 8th ult., and the directors were asked to resign, but the only ones who expressed their readiness to comply with the request were the chairman, Sir Henry Buxton-Ironside and one other member.

The half-yearly report of the Bury Paper-Making Co., Ltd. shows loss on trading account of £27,528. After charging that account with interest and depreciation, amounting to £3,688, there is a debit balance of £31,217 for half-year. Deducting credit balance from last year, less final dividend, amounting to £19,575, a debit balance is left of £11,641. It has been decided to transfer £20,000 from reserve fund, which will then give a credit balance to profit and loss account of £8,358. Dividends recommended of 10 per cent per annum on Preference, less tax, and 15 per cent per annum on Ordinary, free of tax, carrying forward £1,611 to next half-year's account.

Profits of Spicer Brothers, the well-known paper manufacturing firm, experienced a sharp setback during the past financial year, net profits coming out at £86,300, as compared with £104,145 in 1919. Although the capital was increased by the issue of £300,000 8 per cent. notes in December last, the company has only had the use of this money for a very small part of the year under review. After writing £25,330 off the expenses of the Note issue a final dividend at the rate of 6 per cent. per annum is declared on the ordinary shares, leaving £86,207 to be carried forward. In November last a share bonus of 60 2-3 per cent. was distributed, but the interim dividend of 2 per cent. was paid on the old capital. The dividend for the year, therefore, comes out at 7 per cent., as compared with 14 per cent.

Amount of Shares.	Paid.	Company.	Last Dividend.	Mean Price and Quotations.
1	1	Amalgamated Press 5% c.p.	5	16/0
1	1	Annandale & Son, ordy.	7½	4-1
5	5	Do. pref.	5	62/0
1	1	Associated Newspapers, ordy.	7	16/0
1	1	Becker & Co., Ltd., ..	15	27/6
1	1	Brunner, Mond & Co. ..	1/0	25/6
7	10	Do. 7% cum. pref.	7	10½
7	7	Bury Paper Co., Ltd., ordy.	15	14
1	1	Burnley Paper Co., Ltd. ..	20/0	2½
1	1	Castner-Kellner Alkali ..	4½	3½
10	10	Cassell & Co. ..	8	15/3
1	1	Darwen Paper Co., Ltd., "C."	10	1½
1	1	Dickinson (J.) & Co., Ltd., ordy.	2/0	24/6
Stk. 100		Do. 5% cum. pref.	5	67½
Stk. 100		Do. 4½% i Mt. Db. Rd., all pd.	4½	60½
10	10	East Lancashire Paper Co. ..	20/0	21
5	5	Do. bonus	2/0	5-5½
1	1	Electro Bleach & By Products Co. 7% pref.	7	22
5	5	Guardbridge Paper Co., Ltd.	27/6	12
100	98	Hartlepool Paper Mills, ord.	12½	9/9
Stk. 100		Imperial 7½ debts. ...	—	104½
1	1	Levinstein 4½ def. ..	—	90
1	1	Lloyd (Ed.) 5½% cum. pref.	5½	18/3
100	98	London Paper Mills 6% debts.	—	99½
1	1	Marsden (Chas.) & Sons ord.	2/0	16/9
1	1	Do. 7½% part. pref.	9	16/9
1	1	Morgan, Chas., & Co., ord.	15	2/9-1/9dis.
1	1	Newnes (George) ord. ..	6½	14/0
1	1	North of Ireland Paper Co.	1/6	2½
1	1	Ollives	10	9/7½
5	5	Olive & Partington 5% pref.	5	3½-3½
1	1	Owen (T.) & Co. 6% pref.	6	12/7½
1	1	Do. ordy.	15	33/-
5	5	Pearson (C.A.) 5½% cum. pref.	—	54/0
5	5	Peebles (A. M.) & Son ..	10	3½
Stk. 5		Do. cum. pref.	5	2½-3½
5	5	Do. 5½% debts.	5½	90½
5	100	Ramsbottom Paper ordy.	25	19/6
1	1	Do. 5% pref.	15/0	16/0
Stk. 100		Reed (A. E.) 4½% 1st mort. deb. red.	4½	60½
1	1	Reed (A. E.) 5½% cum. pref.	5½	12/1½
1	1	Roach Bridge Paper Co. ..	15	2½
4	4	Salt Union ordy. ..	3/0	11/6
6	6	Do. 7% cum. pref.	2/4	13/10
Stk. 100		Do. 1st mort. debts.	4½	64½
Stk. 100		Do. "B" do.	4½	62
10	10	Spicer Bros., 5% cum. pref.	5	5½
5	5	St. Neots Paper Mill Co., Ltd.	5	5½
1	1	Star Paper Mill Co., Ltd (Feniscotes) ordy.	9	20/6
10	10	Townsend Hook & Co., Ltd.	7	8½
1	1	United Alkali Co., Ltd., ord.	1/0	13/6
10	10	Do. 7% cum. pref.	7/0	6½
Stk. 100		Do. 5% mort. debts.	5	67
10	10	Waterlow & Sons ..	—	—
10	10	Do. 6½% non-cum. pref. ord.	4/0	7½
10	10	Do. 4% cum. pref.	4/0	5½
10	10	Waterlow Bros. & Layton ord	17½	7
10	10	Do. pref.	50/0 7	6½
1	1	Wall Paper ordy. ..	2/0	14/6
1	1	Wall Paper def.	12½	7/3
1	1	Wiggins Teape & Co. ord.	5	15/0
1	1	Do. 7% pref.	7	17/6

CODES.—A.B.C. 5th & 6th Edition. A.I. Western Union. Marooni. Watkins. Benteleys. Private.

Telephone No.: City 7341
(5 lines)

Telegrams:
ODONTOID CENT LONDON

BECKER & CO., LIMITED,

34-40, Ludgate Hill, London, E.C.

And at MANCHESTER, PARIS, NEW YORK,
HALIFAX, N.S., CHRISTIANIA, STOCKHOLM, ETC.

THE LARGEST IMPORTERS OF WOOD PULP

AGENTS FOR

CHICOUTIMI PULP CO., Chicoutimi. Canadian
Hot Ground Spruce.
HA! HA! BAY SULPHITE CO., LTD. Port
Alfred, Quebec.
ST. LAWRENCE PULP & LUMBER CO., Gaspé,
Canada. High-Grade Sulphite Pulp.
THE SOC. ANON. DE CELLULOSE DE ZILINA,
Zilina, Czecho-Slovakia.

SISSIBOO PULP & POWER CO., LTD., Weymouth
Falls, N.S.
CLYDE RIVER PULP & PAPER CO., Clyde
River, N.S.
FORSMARK BRUK, Forsmark. Easy Bleaching
Soda Pulp.
AKTIESELSKABET KONGSBERGS TRAEMASSE-
FABRIK, Kongsberg, Norway.

THE Wood Pulp Maker.

Specially Representing the Interests of the Cellulose and
Wood Pulp Industry.

VOL. LXII. No. 2.

AUGUST 1, 1921.

[ALL RIGHTS RESERVED.]

PULP AND PAPER MAKERS IN AMERICA.

WRITING in the *Times* American Supplement, published recently, Mr. H. J. Berger, editor of the *Paper Trade Journal* (New York), states:—

The paper industry is passing through the most severe depression within the memory of most men now connected with the business. According to an estimate recently furnished by the American Paper and Pulp Association, the industry is operating only about 35 to 40 per cent. of normal.

Although it was believed that paper would not be greatly affected when the business depression began to be apparent in most other industries about a year ago this spring, this opinion was not well founded. The slowing up process began to be apparent by the latter part of the summer and early fall, and by the beginning of this year it was seen that practically all branches of the industry were in for a considerable period of depression.

Material declines of price first began to be noticed in box boards—chip board, for instance, which is a basic grade that under frenzied buying had reached a peak of \$115 to \$120 (23 to 24) per ton, declined until it is now quoted at \$35 to \$40 (7 to 8) per ton. Spot newsprint also declined very materially, prices falling from 12 to 14 cents (6d. to 7d.) per lb. to 5 to 5½ cents (2½d. to 2¾d.) per lb. at the present time. Though contract news naturally did not decline so greatly, quotations now being 5 to 6 cents (2½d. to 3d.) per lb., as against a peak price of 6½ to 7 cents (3½d. to 3¾d.) per lb., which was obtained a few months ago.

Other varieties of paper in both the fine and coarse paper division of the market have shown equally surprising declines, caused by the almost utter disinterestedness of the consumers and the desire of some distributors who were caught with considerable stocks on their hands to liquidate their holdings.

IMPORTS FROM GERMANY.

Of considerable influence also in depressing prices, especially newsprint and bookprint paper, was the importation of German papers. These were offered at some surprisingly low prices. The paper was said not to be of good grade and to give considerable trouble in printing. Wastage caused because of poor quality, in fact, is said to have brought the price actually on a par with, if, indeed, not in excess of, the domestic and Canadian papers. However this may be, the fact remains that considerable paper is still being imported by metropolitan dealers.

Paper-making materials show a corresponding depression with paper. Since last September wood pulp, both mechanical and chemical, has shown a constant decrease,

until the former is now quoted at \$28 to \$35 (112s. to 140s.) per ton, and news grade of sulphite at from \$75 to \$80 (300s. to 320s.) per ton. Rags and waste paper also are practically without demand, and prices in consequence are extremely depressed. Instances are mentioned in various sections of the country, of waste paper, which only a short time ago, was eagerly sought as a paper stock, being destroyed because of lack of storage space and because of the fact that it is not profitable to handle at the prices offered by the paper mills.

WAGE DIFFICULTIES.

Because of the quietude in the industry the tendency of wages is decidedly downward. The book paper mills and fine paper mills in the West, notably Kalamazoo, Michigan, have reduced wages from 15 to 20 per cent. Some fine paper mills in the East, especially those at Holyoke, Mass., have also reduced wages to this extent.

The manufacturers urge that this action in view of the decreased cost of living and the quiet condition of business is thoroughly fair, and this thought has apparently been acquiesced in by the employees, as the cuts have been accepted without any show of trouble.

In the newsprint mills, however, where the employees are highly organised, increases in wages, on the other hand, have been requested. These have not been granted in a single instance, but have been met by proposals on the part of the manufacturers to reduce wages 30 per cent. In a few cases agreements have been reached to continue operations on the former wage scale; but the majority of the manufacturers have refused to compromise on this basis, and as a result most of the large mills are closed down. As the manufacturers state that they cannot operate their mills unless there is some downward revision of wages, and as the employees claim they will not work for less money than they have been receiving, the situation just at present is deadlocked. So far as can be judged from the present aspect of things it promises to remain so for some time.

While the paper industry is quiet just at present as far as the actual manufacture of paper and pulp is concerned, a number of large new mills are in process of completion, and numerous important improvements are being made to existing mills. When normal times return, therefore, it may fairly be assumed that the industry in America will be in a position to give a better account of itself than ever.

PULP WOOD SCARCITY.

Considerable concern has been expressed of late regarding the rapidly disappearing supplies of wood for paper-making purposes, and this has not only led to experimentation with new fibres, but has caused interest to be directed to timber supplies in regions that under old time circumstances were regarded as too inaccessible.

Among the latter may be mentioned Alaska, where one pulp mill was recently placed in operation, and where at least one other, and possibly several others, will be built soon, and where the Government is studying the situation with a view to bringing pulpwood to the States to be made into paper.

Because of the great scarcity of wood a number of mills also have been established in the South, which are making a very excellent grade of pulp from cotton linters. Experiments also have been made there with various grasses, which have been made into pulp of such good quality and at such reasonable prices that a number of mills are being erected to manufacture these grasses into pulp on an extensive scale.

While those best versed in the paper business are reluctant to venture any opinion as to just when normal times will return, it is usually expected that there will be a considerable improvement beginning with the Fall.

THE SLUMP IN PAPER.

At the London Bankruptcy Court an application was made before Mr. Registrar Mellor for the discharge of Barnett Rosoff, 77, Brick Lane, E., printer and stationer, lately trading as the Process Art and Commercial Printing Co., at 13, Hague Street, Bethnal Green, against whom a receiving order was made on the debtor's own petition on August 2, 1919.

The Official Receiver reported that, according to the debtor's statement of affairs, the liabilities to rank for dividend were estimated at £1,011 15s. 9d., and included a liability of £183 to a workman under the Employers' Liability Act. The assets were estimated to realise £60. In July, 1915, with £100 capital, he commenced business at 19-20, Grimaby Street, Brick Lane, E., as "The Process Art and Commercial Printing Company." The business increased, and in February, 1917, he took premises at 13, Hague Street, Bethnal Green, where he set up seven machines bought on the hire purchase system. In August, 1918, he contracted to buy £1,400 worth of paper. In September, 1918, when he had received £665 worth of that paper and had manufactured it into writing pads for the Army in France, there was a heavy fall in the prices offered for the article, and he induced the paper merchants to cancel the balance of the contract and to accept a payment of £200 on account of actual deliveries. He subsequently paid a further £72 on account, leaving a balance due of about £400. Upon the signing of the armistice his business came to a standstill, and he was compelled to sell for £221 his stock of manufactured goods, which had actually cost him £500. He attributed his insolvency to the fall in the price of paper, of which he had a considerable stock; to loss on trading owing to the armistice; and to damages awarded to one of his employees for an injury sustained whilst employed by him.

In the opinion of the Official Receiver, the insolvency was due primarily to having embarked with borrowed capital upon a business of the nature and working of which he was entirely ignorant. The Official Receiver further reported that the assets were not of a value equal to 10s. in the £1, and that debtor had omitted to keep such books of account as were usual and proper in the business carried on by him, and as sufficiently disclosed his business transactions and financial position within the three years immediately preceding his bankruptcy.

Eventually the learned Registrar suspended the discharge for 2 years and 6 months.

Messrs. EDWARD LLOYD & Co., Ltd., of Sittingbourne Paper Mills, have sent a donation of £100 to the funds of the Lord Roberts Memorial Workshops for Disabled Sailors and Soldiers.

PAPER-PULP SUPPLIES FROM INDIA.

MR. E. C. DE SEGUNDA writes as follows to a recent issue of the *Journal of the Royal Society of Arts*:—

I venture to send a few remarks on Mr. Raitt's valuable paper on "Paper-pulp Supplies of India," which may be of interest as indicating another direction in which India may contribute a not inconsiderable quota to the much-needed supplies of raw material for paper-making.

For more than thirty years past it has been recognised in scientific circles that the short fibres retained by cotton-seed after ginning constitute an excellent raw material for the manufacture of paper and of other cellulose derivatives, but the removal of these fibres from the seed in a merchantable condition was found to be a very difficult mechanical problem which has only recently been satisfactorily solved. I can, from experience, endorse Mr. Raitt's view that nature guards her secrets very closely and those who seek to wrest her secrets from her must be endowed with great zeal and great patience. I dealt with the general subject at some length in a paper published in the *Journal* of February 14, 1919, and need, therefore, only refer here to what appears to me an important bearing of the utilisation of these residual fibres, in combination with the projected development of bamboo-pulp, upon the paper-making industry of India.

Last year a British Company was formed for the development in England and elsewhere of the special machinery by which these residual fibres are removed from the cotton-seed without injury to either the seed or the fibre. Arrangements are in progress for the establishment of plants of these machines in the United States. Similar plants are contemplated in South America, Italy and China, and it is hoped that by the end of this year an Indian Company will be launched for the defibration of cotton-seed in India on a large scale. Space does not permit of my going into much detail, but it may be mentioned that an average cotton-seed crop in India contains from 50,000 to 80,000 (or more) tons of residual fibres which, at present, are not only wasted, but are actually detrimental to the seed for the purposes for which it is employed, namely, for feeding cattle and for the manufacture of cotton-seed oil.

Mr. Raitt rightly says that paper cannot be usefully made from mechanical wood pulp alone. I do not gather whether he claims that bamboo pulp will be the equivalent of—or at least similar in its characteristics to—sulphite wood pulp. Very few papers are made exclusively of any one raw material, the finish usually consisting of mixtures in varying proportions of rags, sulphite, esparto and the like. The residual cotton-seed fibres have been found to blend very well with sulphite and esparto and other materials, and there would not appear to be any reason, *a priori*, why they should not blend equally well with bamboo-pulp prepared in the manner indicated by Mr. Raitt. In such case India should, in the near future, be in a position to provide at least a substantial proportion of her domestic requirements of fine writing and printing paper, which should be an important consideration in view of the scarcity in India of suitable raw materials for the manufacture of high-grade white paper which necessitates the importation of a very large proportion of the paper consumed in India.

In the course of the report for the year ending March 31, 1921, on the economic and financial situation of Egypt, compiled by Mr. E. H. Mulock, H.M. Commercial Agent, Cairo, and issued by the Department of Overseas Trade, the following is stated with regard to German competition in stationery:—German stationery is being sold at many Italian and Greek shops at very low prices, and the material appears to be of a good class. For five sheets of notepaper and five envelopes only 5 millimes or 1½d. is charged.

PAPER MILLS SUPPLIES IN ARGENTINA.

THE manufacture of paper in Argentina is confined very largely to wrapping, writing, and coloured papers and cardboard, all of which are fairly well protected by the import duties, writes the U.S. Trade Commissioner. Some news print has been made by the larger mills also, for the kind of goods produced locally is regulated very largely by the presence or absence of imported papers.

The raw materials used in the industry are old paper, rags, and imported chemical pulp to the amount of some 25,000 tons annually. The percentage of pulp used in the individual mills varies with the class of goods turned out. Only one mill is known to be making pulp locally; this is produced from a species of willow growing on the islands in the delta of the Parana River, and the quantity made by the mill is not sufficient to more than cover its own needs.

Many proposals for establishing pulp and paper mills have been made by private individuals for the purpose of interesting either the Government or private capital, but as yet without success. Of these the most persistent efforts have been directed toward the development of a kind of wood known as the *Araucaria Imbricata* which grows in the foothills of the Andes in the Territory of El Neuquen. Samples of this wood have been submitted to various tests and several kilos of paper have actually been made from it by way of demonstration in one of the mills already in operation. There is no dispute regarding the possibilities of making pulp and paper either from this or from any of the other raw materials which are found in many parts of the Republic, but when the cost of such paper laid down in Buenos Aires or one of the other large consuming centres is considered, all the evidence seems to indicate an utter impossibility of competing in ordinary times with similar materials brought from Sweden, Canada, or the United States, where they are produced in large quantities and under favourable conditions as regards plentiful power and water supply, cheap transportation, and experienced technical administration.

The manufacture of mechanical pulp in the Territory of Misiones, where there is raw material, water power, and river transportation to Buenos Aires may hold some prospects for a pulp development later on, but in the absence of high tariff protection, and with the return of lower prices as well as decreased freight rates from Europe and North America, there is little likelihood of anyone investing the capital necessary to put up a plant large enough to make an impression on the market in the immediate future.

If it were possible to produce the single item of news print paper from native materials or even with the assistance of foreign pulp the saving to the country would be very great, since the annual imports amount to about 45,000 metric tons. However, this is not to be thought of at present, for added to the difficulties and expenses of a domestic industry, there is the free entry of the finished paper and the increased burden of a custom house tariff varying from 5 per cent. on pulp to 25 per cent. on certain indispensable chemicals.

At present there is a small demand for all the usual supplies, such as pulp, bluing, bleaching chemicals, coating and colouring materials, felts, calendar, and drying rolls, and Fourdrinier wires compatible with the requirements of mills operating under the conditions mentioned above. The quantities of each can be estimated only very roughly from the fact that there are twelve paper mills now established with 24 machines and a total production of approximately 120 tons of paper and cardboard daily.

PAPER-MAKING DIFFICULTIES IN AUSTRALIA.

WHILE it is true that samples of news print paper manufactured from Australian timber have been produced recently in Western Australia, expert opinion holds out no hope (says the *Melbourne Age*) that the Commonwealth will be able to manufacture anything but a very limited proportion of its requirements in this direction. The natural difficulties in the way of manufacture upon a large scale are said to be almost insuperable. The experiments in Western Australia have been conducted by the Forest Products Laboratory, the paper being obtained from karri waste from the mills.

Mr. R. N. Corney, general manager of the Australian Paper Mills Co., Ltd., when questioned recently regarding the prospects of the industry, said that the samples he had seen were good, but that it was extremely difficult to gauge from a mere laboratory test whether manufacture would be commercially possible. One point that had to be taken into account was the commercial value of the timber itself. As the price of paper decreased in other countries it would be impossible to use Australian timbers unless they decreased in value proportionately. It was suggested that young karri might be used, but they had no knowledge as to the growth of young karri, or as to the plantations or the stock to be drawn upon. There was also the question of the strength of the paper produced, and in the samples he had seen the fibres had been very short, and would, in his opinion, certainly not be satisfactory for the higher grade of papers, at any rate.

In Canada, when the forests of spruce and fir are cut for paper-making it is estimated that a mill with an output of 100 tons per day would have to cut about eight square miles of forest every year. In Australia the annual consumption of news print is about 60,000 tons, and Mr. Corney pointed out that to meet such a demand a great deal more than sixteen square miles of forest would have to be cut out every year. We had nothing in Australia to compare with what the Canadians called forests, with their close growth and huge area, and even the Canadian estimate of eight square miles of forest for an output of 100 tons per day, he considered to be low. As for the suggestion of using the karri waste for paper-making, though that might be suitable for making paper in a very small way, it would be utterly impossible to supply the demands of a big industry from such a source. Even in the Australian forests the large timber would be of very little use, and for paper-making they would have to depend upon young trees up to twelve years old. He did not suppose that anyone would suggest that we should make anything like a full supply of Australian paper here, though some news print could be manufactured—always provided that the price made it a commercial proposition. But there were many big difficulties in the way of starting such an industry, one being the cost of transport, which would be very high, unless rivers were available, as they were in Canada. Then there was the question of the provision of electric power. It would be impossible to supply water power unless there was in existence some big scheme similar to the Kiewa scheme, and there were very few places in Australia where they could expect anything of the sort.

THE installation of a giant paper machine in the plant of the Consolidated Water Power and Paper Company at Appleton, Wisconsin, was completed in July, and the machine is now in operation. The machine, the fastest in the world, will turn out a sheet of newsprint trimming at 156 inches. Its length is over 300 ft., and it uses 164-inch wires.

TWENTY-FOUR YEARS AGO.

JOTTINGS FROM "THE PAPER-MAKER," AUG. 31, 1897.

The Ribble Joint Committee have directed their clerk to apply to the Local Government Board for permission to take proceedings against the Scotshaw Brook Paper Mill Company, Darwen.

On the 13th inst. a fire occurred in a new building (erected on the site of a previous fire) in connection with Mr. Cullingford's paper mills, Norwich. About thirty tons of waste paper were stored in the place, and this, with the building itself, were destroyed, in spite of the strenuous efforts of three fire brigades.

The electric light is making its way into paper mills to a considerable extent. The mill of Messrs. H. Spicer and Co., at Godalming, has recently been fitted throughout. The work has been performed in a most satisfactory manner by Mr. Henry J. Rogers, M.I.M.E., A.I.E.E., of the Watford Engineering Works, Watford, and the installation presents a few novel features.

The death occurred on July 31 at his residence, Fern Villa, Sudell Road, Darwen, of Mr. William Standing, in his 68th year. Mr. Standing was an old employee of the Darwen Paper Staining Company, having been in the service of Messrs. Potter for nearly 50 years. For a number of years he had been their head traveller, but of late, owing to a general breaking-up, he had been confined to the house.

At the invitation of the Kent Coalfield Syndicate a large party of visitors went on Wednesday, August 4, to view the new works. Preliminary borings have shown 18 ft. of coal, with the probability of another 100 ft. below that, and the working shafts are being rapidly driven. One has already reached a depth of 465 ft., and the other 300 ft., but it will be another five months before coal can be raised.

We have to announce the death, on the 7th inst., of M. Prosper Douvet, at the age of 50 years. Mr. Douvet, about a score of years ago, became manager of the Paris business of the English firm of Spalding & Hodge, who were among the first to introduce esparto paper into France. After several years he became proprietor of the Paris house, which he brought to a state of great prosperity. His loss is much regretted in paper-making circles in France.

John Heyes, a labourer at Hollins Paper Mill, had been engaged along with two other workmen unloading a wagon of pulp on the 29th ult., and when his work was finished was crossing the line in the direction of his home and was struck by a wagon, which was being shunted, and thrown upon the line, the wheels of one of the wagons passing over his leg, and almost severing it from the body. The unfortunate man was lifted to the side of the rails, and he expired in a few minutes' time.

On August 14 Mr. Wyndham S. Portal, proprietor of the famous Bank of England notepaper mills at Laverstoke, entertained the whole of the mill employees, together with their friends, numbering from 350 to 400 people, at Malshanger. The proceedings took the form of a dinner and fête in honour of the Queen's Diamond Jubilee. In this Mr. Portal followed the precedent of 1887, when the fiftieth year of the Queen's reign was celebrated. In a large darkened marquee, on the lawn, an entertainment from the Egyptian Hall was given, consisting of moving pictures of the great Jubilee procession. The affair was, from beginning to end, most successful in every respect.

C. E. Brackenbury writes from Modena to the *Daily Chronicle*, on August 9:—"I am more than pleased this morning, on the perusal of the leading article on the denunciation of the German Commercial Treaty in your issue of the 2nd inst. All Free Traders may alike congratulate themselves on such a result, and the *Daily Chronicle* in particular may feel the satisfaction of having kept the straight course of Free Trade, whilst others turned aside into the tortuous by-ways of a Zollverein, and the misleading paths of Protection. Here in Italy I have seen a little of the trade practices of our Teutonic friends. At Milan, being in need of notepaper, I found in one of the principal shops a stock of paper labelled in English, 'Best Old Kent Mill,' and other such like expressions. The printing, however, I recognised as German, and so refrained from buying a fraudulent article, preferring rather locally-made paper of fair quality. Real English paper I found to be of too high a price. At Modena I have seen German-made cotton goods bear marks in English, such as 'Forty gauge,' 'Guaranteed fast colour,' 'Extra double sole,' etc. Honest competition we need not fear, but such methods as these to oust British trade, and to palm off German goods as English, can only be truly described as fraudulent and dishonest. In a country so friendly to us as Italy, it requires only energy in our business, and publicity of German trade tactics, to enable us to more than cope with Teutonic enterprise."

Mr. Alderman Green presided over a Wardmote, held on the 12th inst., at the schoolrooms, Brickhill Lane, Thames Street, for the purpose of electing a Common Councilman for the Ward of Vintry, in succession to the late Mr. G. W. Dray (G. W. Dray & Son, Ltd.), paper-makers and manufacturing stationers. The Lord Mayor's precept having been read, the candidates proposed to fill the vacancy were Mr. Henry Abbott, paper merchant, of 47, Queen Street; Mr. F. G. Dray, stationer, of Great St. Thomas Apostle; and Mr. Bowater, paper merchant, of Queen Street Place. On a show of hands being taken, the Alderman decided in favour of Mr. Abbott, but a poll was demanded on behalf of the other two candidates. This took place on the 13th, between the hours of 10 a.m. and 6 p.m., at the schoolrooms, Brickhill Lane, Upper Thames Street, with the following result:—Mr. F. G. Dray, 102; Mr. H. Abbott, 65; Mr. Bowater, 20. Mr. Dray was duly elected, and has thus succeeded his father in the City Corporation, as well as in the position of managing director of the company. The late Mr. Dray commenced business in 1857 in Bread Street, E.C., and four years afterwards removed to Great St. Thomas Apostle, the factory being in St. Guildford Street, Southwark. Mr. F. G. Dray was taken into partnership on his coming of age in 1883, and in 1889 the concern was converted into a limited company. The Drayton Paper Works are owned by the company, which does a large and flourishing trade.

FOREST fires sweeping over Northern Ontario have already claimed two lives and caused great property damage. Only a heavy rain can save the country from a widespread conflagration, refugees report. Two men, who ran into a dugout to escape the flames were burned to death. The fires were particularly menacing near Timmins and Uno Park and the Cochrane and Larder Lake districts.

In connection with the extensions of the news plant of the Abitibi Power and Paper Company at Montreal, Quebec, it is interesting to note that two of the new machines in the paper mill extensions are the largest type built in the world. The width of the machine is 232 inches, and each machine will turn out 85 tons of news print daily. Altogether the new machines which have recently been added will make a total of 230 tons of news print a day, bringing the capacity of the mill up to 500 tons daily.

BOARD OF TRADE RETURNS OF IMPORTS OF PAPER AND PAPER-MAKING MATERIALS FOR THE MONTHS OF JUNE, 1919, 1920 & 1921.

				QUANTITIES.			VALUE.		
				1913.	1920.	1921.	1913.	1920.	1921.
Imports of Paper—FOR PRINTING OR WRITING.									
On Reels.	From Sweden	...	...	38,399	—	—	£ 21,695	—	—
	„ Norway	...	...	67,054	—	—	£ 38,635	—	—
	„ Germany	...	...	12,490	—	—	£ 8,727	—	—
	„ United States of America	...	...	735	—	—	£ 430	—	—
	„ Newfoundland and Coast of Labrador	...	...	106,680	—	—	£ 52,113	—	—
	„ Other Countries	...	...	15,016	—	—	£ 8,735	—	—
Total				240,374	—	—	£ 130,335	—	—
Not on Reels.	From Sweden	...	...	12,544	—	—	£ 8,266	—	—
	„ Norway	...	...	29,097	—	—	£ 18,351	—	—
	„ Germany	...	...	23,523	—	—	£ 21,978	—	—
	„ Belgium	...	...	9,340	—	—	£ 8,303	—	—
	„ United States of America	...	...	2,772	—	—	£ 6,363	—	—
	„ Other Countries	...	...	3,869	—	—	£ 6,203	—	—
Total				81,145	—	—	£ 69,464	—	—
PAPER, PRINTED.									
Hangings	From Germany	...	...	1,935	—	—	£ 4,272	—	—
	„ Belgium	...	...	703	—	—	£ 1,750	—	—
	„ Other Countries	...	...	396	—	—	£ 1,613	—	—
	Total	...	...	3,034	—	—	£ 7,635	—	—
Other Printed or Coated Papers	From Germany	...	...	4,852	—	—	£ 12,431	—	—
	„ Belgium	...	...	3,021	—	—	£ 6,316	—	—
	„ France	...	...	279	—	—	£ 1,667	—	—
	„ United States of America	...	...	753	—	—	£ 2,612	—	—
Total				9,137	—	—	£ 23,820	—	—
Paper : Printing, not coated, and Writing Paper in Large Sheets :									
From Sweden	...	...	...	—	41,569	36,798	—	94,627	69,252
„ Norway	...	...	...	—	85,702	5,399	—	200,759	11,136
„ Germany	...	...	...	—	5,540	245	—	18,214	803
„ Belgium	...	...	...	—	1,496	4,233	—	5,875	9,337
„ United States of America	...	...	...	—	6,887	838	—	26,854	1,953
„ Canada	...	...	...	—	10,745	—	—	19,296	—
„ Newfoundland and Coast of Labrador	...	...	...	—	19,730	164,030	—	51,400	310,406
„ Other Countries	...	...	...	—	99,210	144,317	—	241,162	258,799
Total	...	...	...	—	270,879	355,860	—	658,187	661,686
Packing and Wrapping, including Tissue Paper :									
From Russia	...	...	...	17,561	53,767	—	10,902	109,842	—
„ Finland	...	...	...	—	—	12,031	—	—	22,279
„ Sweden	...	...	...	112,191	231,600	46,683	71,335	670,785	93,379
„ Norway	...	...	...	89,903	99,003	3,640	56,048	295,623	6,868
„ Germany	...	...	...	65,870	24,906	485	55,047	85,243	1,755
„ Belgium	...	...	...	21,109	13,517	5,670	17,114	57,330	17,155
„ Canada	...	...	...	10	19,276	602	49	46,247	1,202
„ Other Countries	...	...	...	22,092	32,065	12,488	18,399	117,064	30,635
Total	...	...	...	328,736	474,254	81,599	228,894	1,391,134	173,273
Coated Papers.	From Germany	...	...	—	6,593	145	—	37,618	775
	„ Belgium	...	...	—	4,790	2,079	—	34,880	6,362
	„ France	...	...	—	2,173	380	—	18,609	3,224
	„ United States of America	...	...	—	835	220	—	7,946	3,555
	„ Other Countries	...	...	—	3,080	772	—	14,558	5,129
Total	...	...	...	—	17,471	3,596	—	113,611	19,045
STATIONERY				—	2,549	2,109	—	19,392	13,899
MILLBOARD, LEATHER BOARD, CARDBOARD, AND PASTE BOARD				104,140	201,250	26,369	51,326	361,215	49,847
STRAWBOARD				252,108	836,080	84,817	68,352	816,590	48,858
OTHER SORTS				15,962	37,928	18,191	42,070	226,855	98,643
Total Imports of Paper and Cardboard				1,034,696	1,840,411	572,541	621,896	3,586,984	1,065,251

Board of Trade Returns of Imports of Paper and Paper-Making Materials for the Months of June, 1913, 1920 & 1921—continued.

	QUANTITIES.			VALUES.		
	1913.	1920.	1921.	1913.	1920.	1921.
Imports of Paper-making Materials :				£	£	£
PULP OF WOOD : Chemical : Dry, Bleached :						
From Russia tons	—	—	—	—	—	—
„ Finland „	—	—	50	—	—	2,020
„ Sweden „	222	160	106	2,148	6,365	5,901
„ Norway „	874	1,119	674	9,845	52,700	37,711
„ Germany... .. „	237	—	—	3,043	—	—
„ Other Countries „	165	1,300	48	1,396	65,490	1,331
Total „	1,498	2,579	878	10,432	124,564	47,026
Chemical : Dry, Unbleached :						
From Russia tons	3,569	5,440	—	29,300	242,095	—
„ Finland „	—	—	80	—	—	2,000
„ Sweden „	27,692	44,756	4,539	223,379	1,631,232	193,830
„ Norway „	5,612	8,685	2,515	47,121	303,542	111,921
„ Germany... .. „	2,081	651	—	25,284	34,211	—
„ Other Countries „	774	4,105	117	6,254	205,803	2,774
Total „	40,628	63,037	7,251	331,338	2,416,883	310,525
Total of Chemical Dry Pulp of Wood „	42,126	66,216	8,129	347,770	2,541,447	357,551
Chemical : Wet „	1,816	17	25	6,000	148	375
Total of Chemical Pulp of Wood „	43,942	66,233	8,154	353,770	2,541,595	357,926
Mechanical, Dry tons	1,534	1,028	142	7,114	26,699	2,729
Mechanical, Wet :						
From Sweden tons	12,535	17,509	—	23,312	306,003	—
„ Norway „	21,179	33,983	1,492	47,309	491,573	13,480
„ Canada „	6,710	9,970	—	15,147	190,450	—
„ Other Countries „	5,792	1,421	339	13,999	28,468	4,632
Total „	46,216	62,886	1,831	99,767	1,025,494	18,112
Total of Mechanical Pulp of Wood „	47,750	63,914	1,953	106,881	1,052,193	20,841
Total of Pulp of Wood „	91,722	130,147	10,107	460,651	3,593,788	378,767
ESPARTO AND OTHER VEGETABLE FIBRES, including Waste :						
From Spain tons	3,587	8,910	1,581	17,019	214,915	30,922
„ Algeria „	6,936	7,504	2,269	23,186	135,094	27,662
„ Other Countries „	6,495	8,882	1,218	21,218	176,911	10,652
Total „	17,018	25,296	5,068	61,423	526,920	69,236
LINEN and COTTON RAGS „	2,253	1,164	664	23,304	41,534	15,489
PAPER-MAKING MATERIALS, not elsewhere specified „	1,503	413	85	13,982	8,003	1,724
Total Values of Paper-making Materials „				559,360	4,170,245	465,216
Imports of Chemicals :						
BLEACHING MATERIALS cwts.	13,855	2,271	1,264	3,394	7,230	7,493
IRON PYRITES (including Cupreous Pyrites) tons	54,350	45,032	3,881	94,729	154,311	9,649
ROSIN cwts.	178,507	49,678	49,560	115,678	126,835	36,015
GLUE, SIZE and GELATINE „	18,596	9,575	6,119	38,334	85,059	51,140

J. A. NORDBERG, Ltd.31, Bread Street, Queen Victoria
Street, - - LONDON, E.C.4.*Supply all kinds of*

CHEMICAL & MECHANICAL WOOD

PULPS



IMPORTANT

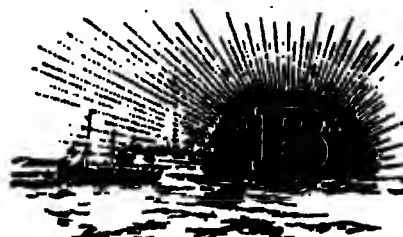
TO

Newspaper, Periodical and Magazine Proprietors,
Printers, Publishers, and all Users of Paper
throughout the World.

**BEFORE PLACING YOUR ORDERS APPLY TO US
FOR SAMPLES AND QUOTATIONS.**

W. V. Bowater & Sons,
Limited
*are Paper Makers, Agents, and
Wholesale and Export Paper Merchants.*

REGISTERED



TRADE MARK.

We specialise in "News," Glazed and Unglazed Coloured Printings
Machine Finished and Super-Calendered Printings, Coated and
Imitation Arts, Typewriting Papers, Art Covers, Cartridges, Writings,
M.G., Glazed and Unglazed Natures, Tissues, Sulphites, and Browns,
Cover Papers, Badami and Native Account Book Papers, and
Board of all descriptions and grades.

159, Queen Victoria Street, LONDON, E.C.4.

Cables: "SPARTEOLUS," LONDON.
Codes: A B C (5th Edition), Western-Union and Western-Union 5-letter Edition, and Bantley's.

WAREHOUSES AND WHARVES—

BOWATER'S WHARF, Commercial Road,
Lambeth, S.E.; and Worship Street, E.

MORDEN PAPER WORKS—

MORDEN WHARF, Greenwich, LONDON, S.E.;
and at Carrick Street, GLASGOW.



OFFICES ABROAD—

NEW YORK: Woolworth Buildings.
CAIRO: 10, Chareh Tourguemane.
SHANGHAI: 9, Ningpo Road.
BOMBAY: Telephone Buildings, Hema Street.
MADRAS: Post Box No. 287. And at
HONG KONG, SINGAPORE, PENANG and
Principal Ports throughout the World.

BOARD OF TRADE RETURNS OF EXPORTS OF PAPER AND PAPER-MAKING MATERIALS FOR THE MONTHS OF JUNE, 1913, 1920 & 1921.

				QUANTITIES.			VALUE.		
				1913	1920.	1921.	1913.	1920.	1921.
Exports of British Paper :							£	£	£
Printing not coated	To France ... ..	...	...	8,641	8,750	140	10,687	35,869	879
	" United States of America ... ..	...	...	3,332	613	458	4,106	6,260	3,970
	" Other Foreign Countries ... ..	...	...	30,040	24,178	8,628	33,107	106,461	27,055
	" British South Africa ... ..	...	...	8,319	4,292	2,273	8,355	19,334	7,578
	" British India ... ..	...	...	25,269	22,320	4,440	23,817	81,725	18,164
	" †Straits Settlements ... ..	...	...	2,349	1,365	135	2,154	6,409	856
	" Ceylon ... ..	...	...	2,239	3,110	1,919	2,189	11,297	5,411
	" Australia ... ..	...	...	54,572	10,647	37,228	36,995	39,547	106,090
	" New Zealand ... ..	...	...	9,793	1,300	920	9,064	5,775	3,359
	" Canada ... ..	...	...	10,394	39	162	12,980	240	717
" Other British Possessions				3,164	3,054	2,137	3,282	13,403	8,302
Total				158,112	79,668	58,440	146,736	326,320	182,457
†Writing paper in large sheets	To France ... ..	...	...	280	1,836	31	1,259	8,574	378
	" United States of America ... ..	...	...	218	241	57	922	1,946	770
	" Other Foreign Countries ... ..	...	...	2,714	2,736	2,000	8,830	19,565	10,492
	" British South Africa ... ..	...	...	1,577	478	223	3,282	3,010	1,485
	" British India ... ..	...	...	2,294	5,981	1,556	5,199	30,038	9,481
	" †Straits Settlements ... ..	...	...	376	553	336	808	4,893	2,842
	" Ceylon ... ..	...	...	272	381	15	473	2,318	121
	" Australia ... ..	...	...	6,072	3,070	1,628	10,450	16,432	7,667
	" New Zealand ... ..	...	...	1,700	1,278	508	2,731	6,818	3,119
	" Canada ... ..	...	...	677	1	293	1,392	24	1,939
" Other British Possessions				870	976	346	2,198	5,815	3,818
Total				17,050	17,531	6,993	37,634	99,433	42,112
PACKING AND WRAPPING				cwts.					
TISSUE PAPER				61,539	25,809	13,106	31,553	69,549	20,426
COATED PAPERS : Printed and Embossed Paper Hangings ..				9,150	1,008	656	13,263	9,142	
Other Sorts, except Waterproof Wrappings, Roofing Paper, and Sensitised Photographic Paper ...				2,355	3,844	2,096	10,626	39,003	21,650
ROOFING PAPER, Tarred and other									
STATIONERY : Envelopes, not including Box Stationery ..				3,026	4,281	1,644	6,688	30,998	14,928
Other sorts					11,967	8,508	—	164,065	120,214
Total				3,026	16,248	10,152	6,688	195,063	135,142
PAPER BAGS				cwts.					
BOXES and CARTONS of PAPER and CARDBOARD				4,368	1,755	1,062	4,800	8,943	5,310
(including FOLDING BOXES)				4,080	2,521	1,921	6,486	19,543	12,457
MILLBOARD, STRAWBOARD, CARDBOARD, &c.				10,208	5,587	4,784	9,547	22,667	19,121
PLAYING CARDS				291	87	99	2,226	2,093	2,102
To France				635	109	48	3,940	879	251
United States of America				217	162	117	689	3,346	1,859
Other Foreign Countries				2,384	3,000	610	4,848	24,169	6,330
British South Africa				896	442	214	1,764	4,384	1,919
British East Indies				681	1,181	611	1,180	10,490	4,452
Australia				1,010	401	395	1,733	3,773	3,061
New Zealand				527	301	556	799	2,044	2,776
Canada				261	161	45	819	1,921	1,132
Other British Possessions				240	464	414	360	4,194	3,091
Total				6,851	6,221	3,010	16,132	55,200	24,871
Total Exports of British-made Paper and Cardboard				277,039	175,621	104,557	294,041	940,374	490,911

† Including Federated Malay States and Labuan. † Included Notepaper and other kinds of paper for writing, prior to 1920, now included in "Stationery, other Sorts"—same group.

**BOARD OF TRADE RETURNS OF EXPORTS OF PAPER AND PAPER-MAKING MATERIALS
FOR THE MONTHS OF JUNE, 1918, 1920 & 1921.—continued.**

	QUANTITIES.			VALUES.		
	1913.	1920.	1921.	1913.	1920.	1921.
Exports of Foreign and Colonial Paper and Boards :						
FOR PRINTING OR WRITING: On reels cwt.	12,894	—	—	£ 6,604	£ —	£ —
Not on reels "	7,192	—	—	5,697	—	—
PRINTED PAPER HANGINGS "	29	—	—	226	—	—
OTHER PRINTED or COATED PAPERS (except SENSITISED PHOTOGRAPHIC PAPER) "	98	—	—	707	—	—
PRINTING, not COATED, and WRITING PAPER in large sheets "	—	770	499	—	4,795	1,350
PACKING and WRAPPING, including TISSUE PAPER "	9,583	1,539	1,068	6,535	9,739	2,813
COATED PAPERS "	—	29	35	—	751	1,639
STATIONERY "	—	15	51	—	328	1,304
MILLBOARD, LEATHER BOARD, CARDBOARD, and PASTEBOARD "	651	2,318	65	467	4,343	229
STRAWBOARD "	1,368	224	69	616	463	89
OTHER SORTS "	1,736	1,153	750	6,925	16,845	11,268
Total Exports of Foreign and Colonial Paper and Cardboard	33,551	6,048	2,537	27,777	37,264	18,692
Exports, Foreign and Colonial, of :						
PULP OF WOOD: CHEMICAL: DRY tons	1,546	—	50	12,410	—	1,300
LINEN AND COTTON RAGS "	929	50	—	8,513	875	—
Total "				20,923	875	1,300
OTHER ARTICLES "				7,795	—	—
Total Value of Foreign and Colonial Paper-making Materials				28,718	875	1,300

Telegrams: "Pergamya, Drammen."

Aktieselskabet

PHÖNIX PAPIRFABRIK**DRAMMEN, NORWAY.****SPECIALITIES**

**{ Thin Glazed and Unglazed Greaseproof
Manifold Papers. Bankpost.**

THE WOOD PULP MARKETS.

CHEMICAL.

LONDON.—London has been visited by several important personages representing Scandinavian interests, and we understand that the spirit of give-and-take as between pulp firms and buyers has solved a number of difficult problems. It is difficult to quote prices, but the outlook is somewhat brighter and a better feeling seems to prevail.

MECHANICAL.

LONDON.—There is very little doing in the mechanical market, and the "news" mills still hold immense stocks. Trade generally remains slow, and it is impossible to give prices which will convey any useful information as to forward business.

CHEMICAL.

MANCHESTER.—There is a general feeling that business will improve in the early autumn, but mills are only buying hand to mouth, and we cannot hear of any transactions of importance during the month.

MECHANICAL.

MANCHESTER.—The long spell of inactivity continues. Prices unchanged.

CHEMICAL.

NEW YORK.—Latest particulars to hand respecting the chemical pulp market indicate that, generally speaking, there is still an absolute lack of business, but prices have been fairly maintained, and those which had come down to lowest levels are now showing signs of improvement.

MECHANICAL.

NEW YORK.—During the early part of last month the market in mechanical pulp was more brisk than for some time past. Prices have become considerably

firmer, and one authority states there seems to be very little ground wood to be obtained in the open market.

CHEMICAL.

GOTHENBURG.—The chemical pulp market can scarcely be said to have improved during the last month, though sales to the United States appear to have been made in small lots. Prices are considered to have touched lowest levels, and according to one authority producers who are at present running for the most part without profit, will prefer further restriction of output to any more reduction in prices. As a consequence of the existing low quotations, the restriction of output during the first nine months of the year amounts to 45 per cent. for sulphite pulp, 55 per cent. for sulphate, and 45 per cent. for mechanical upon the output for the same period of last year.

MECHANICAL.

GOTHENBURG.—As a consequence of the keen competition with Norway and Finland, prices of mechanical pulp have been forced down and some sales are reported at reduced prices. The output amounts now, both in Sweden and Norway, to only one-fifth of the normal capacity of the mills.

CHEMICAL.

CHRISTIANIA.—Some improvement is reported in the cellulose market, *Farmand* stating that greater interest has manifested itself in several quarters.

MECHANICAL.

CHRISTIANIA.—The mechanical pulp trade remains dull, owing to restricted production, and it is understood that Norwegian wood pulp mills will continue to stand idle until products have improved. Some clearance sales of moist mechanical from Norway are reported at 80 kroners, but these have only been for odd lots of 50 to 100 tons for imported shipment.

THE INDUSTRIAL FUTURE OF INDIA.

The time has arrived when India is rapidly evolving from an agricultural country, into a vast industrial empire. The late war has accelerated this development, and also consolidated the work done in more recent pre-war days. To-day, there are only four countries in the whole world with a larger textile industry than India, which includes 6,763,076 spindles, and 119,012 looms; the total number of cotton mills in all India being 253. From her new iron and steel works India supplied the Allies with the steel railway rails so urgently needed during the war. These new works have been erected in accordance with the very latest Western practice, including by-product coke ovens, electric steel smelting furnaces, and more recent extensions include heavy plate rolling mills.

Iron and steel being the raw material for so many industries, it is only natural to find a hive of new industries springing up round the iron and steel works. Not only does India possess vast wealth in mineral resources, but she is also fortunate in being able to economically harness her water power, a factor of great importance in modern industrialism. On the Bombay side of India, part of a large hydro-electric scheme is already in operation supplying

power to the Bombay cotton mills, and plans are laid for plant with a capacity of three-quarters of a million electrical horse power. With such huge developments achieved and in hand, India naturally requires her own technical journals, in order that she may be kept in close touch with all the latest industrial developments of the Western world.

To meet the immediate needs of this demand, the Tata Publicity Corporation, Ltd., of Bombay, are publishing in London, for circulation in India, a monthly magazine entitled, *Industrial India*. We have received a copy of the first issue of this journal, which is produced on modern lines, using art paper and a coloured cover, which is certainly a departure from the old groove in the producing of a technical journal, and gives engineering firms full scope for using colour when required.

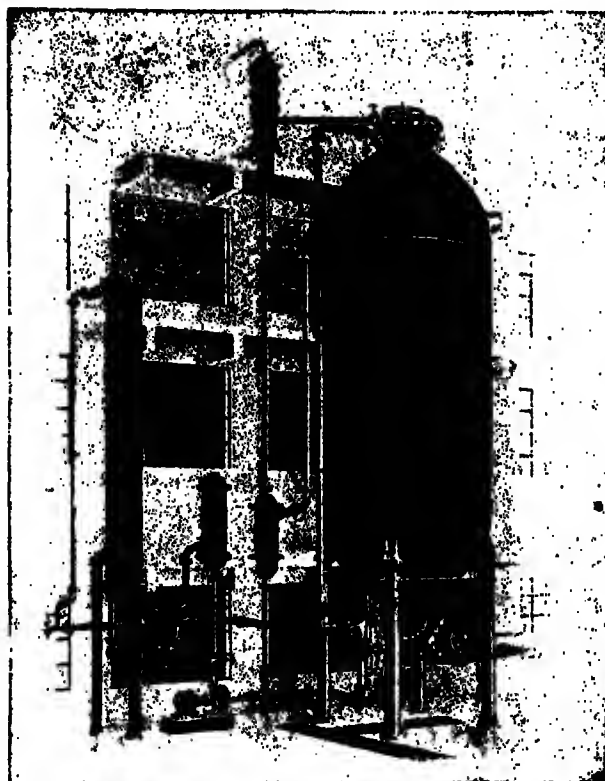
Editorially, *Industrial India* has been planned to deal each month with the different phases of industry, under six main headings as follows:—Industries, Manufactures, Power and Power Transmission, Organisation, Transport and Science. We are interested to note that *Industrial India* has started out with the fixed policy of being educational, and its columns will be entirely independent in any expression of opinion—a matter of vital importance with such wonderful possibilities before it.



Complete Equipments

FOR

PULP & PAPER MILLS



Boving & Co. have a special patented system for digestion for the production of chemical pulps, applicable to all classes of raw materials. The Boving system involves forced circulation of the liquor, external heating and gas separation. It effects great economies in fuel for heating and chemicals, and a large saving in time. Further, the quality and yield of pulp is greatly improved.

BOVING & Co., Ltd.

(Dept. 10),

Head Office: 56 Kingsway, W.C.2

WORKS . . Stoke-on-Trent, Staffs

Branches and Representatives in

Manchester, Paris, Australasia, Japan, S. America, Canada, etc.



SWEDEN.

[FROM OUR OWN CORRESPONDENT.]

Stockholm, July 23, 1921.

THE situation of the cellulose market is unchanged, and several important mills, such as Wifsta Warfs sulphate and Iggesund's sulphite and sulphate mills, have remained closed after the holidays. The restriction of output for the first six months of the year amounts, it is calculated, to 45 per cent. sulphite and 55 per cent. sulphate. Prices have been reduced to the lowest possible levels and indeed, in some cases, loss on working is probable. The mechanical market reports some sales at reduced prices. According to an Exchange message quotations range round the following:—Easy bleaching sulphite, 460 kr.; strong sulphite, 410 kr.; easy bleaching sulphate, 385 kr.; dry mechanical, 200 kr.; moist mechanical, 90 to 100 kr., all per ton f.o.b., Gothenburg.

The conclusion of the coal strike in the United Kingdom does not appear to have affected the Swedish pulp industries as yet. There is no doubt that one of the chief causes of the depression in the market is traceable to the large stocks of pulp wood and other raw materials, purchased at high prices, towards the end of last year, which prevent output at lower costs than those which now prevail.

The Karlshall pulp mill of the Lulea Trasliperi Aktiebolag, near Lulea, was gutted by fire on the 17th inst., destroying, it is stated, 10,000 tons of pulp.

Enormous forest fires have broken out in the neighbourhood of Oskarshamn on the west coast of Sweden, and in Scania.

SVENSK.

NORWAY.

[FROM OUR OWN CORRESPONDENT.]

Christiania, July 25, 1921.

CONDITIONS in the wood pulp market are unchanged, and, states *Farmand*, the Norwegian wood pulp mills will continue to stand idle until prospects have improved. The market continues dull, largely as a consequence of the restricted production, but some sign of improvement is reported to be observable. With regard to cellulose increased interest is being manifested in a number of markets. *Farmand* states that notwithstanding the holiday season unexpected activity has made itself felt in the paper market, but another view is that there has been no recovery in the paper markets notwithstanding a few enquiries and some minor business. Generally speaking, however, it is not anticipated that there will be much improvement in the pulp and paper trades before the autumn.

Several forest fires have occurred in South Norway recently. Altogether, it is stated, an area of about 2,000 acres has been devastated by fire.

VIKING.

FINLAND.

[FROM OUR OWN CORRESPONDENT.]

Helsingfors, July 15, 1921.

THE Finnish cellulose and paper markets, which have been adversely affected by the British coal dispute, have not yet shown much improvement. Shipments of cellulose have been mainly to the United States, France and Japan. The wood-pulp trade is unchanged, but now that labour affairs are more settled in the United Kingdom better business is hoped for. Exports of paper in June total about 50,000 tons, and it is interesting to note that contracts have been made with the representatives of Russia for the delivery of 7,600 tons of various kinds of paper to the amount of 27,700,000 marks. The export of cellulose in June was 7,906.

Owing to the defection of the Kymmene Aktiebolag from the Finnish Paper Mills Association, the latter has undergone some reorganisation. In addition to the Association, the Finnish Paper Office for the sale of paper in Finland as well as in Russia, Esthonia, Latvia and Liffland has been formed. This organisation has been joined by the Kymmene Aktiebolag, and, further, all the Finnish paper mills have joined the Finland Paper Union, which has also been constituted.

I understand that negotiations are on foot between a leading Spanish newspaper and the Finnish Association of Paper Manufacturers for a supply of newsprint.

It is rumoured that some deposits of kaolin have been discovered in the neighbourhood of Osterbotten, and a company is being formed of Tammerfors businessmen to explore the deposits. If the exploration proves successful it is stated that a larger company will probably be organised later to utilise the material for technical purposes.

FINNE.

RUSSIA.

[FROM OUR OWN CORRESPONDENT.]

Petrograd, July 21, 1921

DEFINITE results have now been achieved by the Russian Trade Delegation to the Finnish Association of Paper Manufacturers. A contract was signed on June 18 for the delivery of 8,000 tons of paper to include newsprint, scribbling and ordinary writing paper, and delivery is to be made within two months at the railway station at Systerback. The purchase price is in the neighbourhood of 30,000,000 marks.

RUSS.

WHOLESALE STATIONERS AND PAPER MERCHANTS.

A MEETING of the Council of the National Association of Wholesale Stationers and Paper Merchants was held at the Council Chamber, 11, King's Bench Walk, Temple, E.C.4, on Thursday, 14th ult., various items of interest to the trade in general being discussed.

The President (Mr. J. W. Cooke) gave the outlines of a scheme under which members of the Association would be entitled to a special rebate on all insurances. This scheme was discussed at length, and left in the hands of the General Secretary and a small sub-committee for further information and report.

The question of standardisation also came under consideration, and it was agreed by the members of the Council that wholesale stationers and paper merchants as a body would be only too willing to adopt any scheme which was demanded by the consuming trades as a whole.

Mr. F. M. Carson (vice-president) detailed the efforts which a sub-committee appointed recently had made, by interviews and correspondence, with various shipping companies to remove the present anomaly by which the freight of foreign paper carried at ton rate was transported at so much lower price than English shipping at measurement rate, and brought to the notice of the Council a letter to the General Secretary on the matter which conveyed the decision of the Rates Committee of the Australian and New Zealand lines to reduce materially the rate of freight on all paper in bales or reels.

It was also announced that the final of the National Cup Golf Competition between Mr. Dykes Spicer (Southern District) and Mr. A. Parkinson (Northern District) would be played on a neutral course near London early in September.

WOOD PULP PAPER AND BOARDS TIMBER

of every description
exported c.i.f. all principal
ports of the world.

KJELLBERG & HEDBERG

STOCKHOLM.

Cables: "Swedemill."

Telegraphic Address: "Econ. Edinburgh."

T. T. McCROW

(T. T. McCROW, G. W. McCROW.)
WINDSOR BUILDINGS,
100 PRINCES STREET, EDINBURGH.

Esparto

(SOCIÉTÉ GÉNÉRALE DES ALFAS)

Woodpulp

(EKMAN & CO.)
Sulphite, Soda and Mechanical.

Alums & China Clay

(H. D. POCHIN & CO., LTD.)

Mineral White

(CAFFERATA & CO.)

Amber Size

(FOX, STODKELL & CO.,
LONDON.)

Starch, Glues,

and other Materials for Paper-Making.

ELECTRO BLEACH AND BY-PRODUCTS LTD.

ELECTRO  BRAND.

Manufacturers of
Bleaching Powder,
95/97%.

Soda Crystals,
PURE CRUSHED.

Caustic Soda,
SOLID AND LIQUID.

"Vacuum" Salt,
DRIED AND UNDRIED.

Works and Office:-
MIDDLEWICH, GLOUCESTERSHIRE.

ALDQATE CASEIN WORKS

PROPRIETORS:
NIEUWHOF, SURIE & CO., LTD.
5 LLOYD'S AVENUE, LONDON, E.C.3.

ALL KINDS OF

PAPER

AGENTS-IMPORTERS-EXPORTERS-CONTRACTORS

ENQUIRIES SOLICITED.

Before placing orders please consult us, for we are
confident it will be to our mutual advantage.

Specialities: ENAMELLING PAPERS
AND BOARDS, ART PAPERS,
VEGETABLE PARCHMENTS, NEWS
PRINT, DUPLEX BOARDS, Etc., Etc.

Tel. Add.: "SURIODON, LONDON."
Tel. Nos.: AVENUE 34 & 35.

Cable: A.B.C. (34th E4.), Lieber's, Western Union, Bentley's and Marconi's

CANADIAN NEWS.

British Columbia's Timber.

THE total value of the forest products of British Columbia last year is placed at \$92,500,000, practically twice that of the forest production three years ago. The value of the lumber cut has advanced by nearly \$16,000,000 over last year, while the increase in value of pulp and paper products amounts to more than \$9,000,000.

Quebec Forest Fires.

THE forest fires which had been raging for some days in Quebec in the vicinity of Chandler were successfully got under control, according to a telegram received by the Lands and Forests Department. The district was only saved from being entirely devastated, by the excellent work of the employees of the Chicoutimi Pulp Company.

Reafforesting Plan of Chicoutimi Company.

AN extensive plan for reafforesting its timber limits has been decided upon by the Chicoutimi Pulp Company. The company has obtained the services of the Quebec Forestry Department to make a complete survey of its timber reserves and the best method of their exploitation. It is stated that the company will adopt most rigid regulations in order to ensure the permanence of their forest capital. The outline of the project has already been adopted and the company has lately sent one of its employees to Europe to study European methods on the ground and consult with the best known practitioners in this field.

Labour Troubles in Canada.

THE labour situation in the pulp and paper mills in Canada is gradually improving. Following upon the return of the employees of Messrs. Price Bros., there comes the announcement that the workers of the Abitibi Mills at Iroquois Falls have returned to the mills. The terms are understood to have been agreed upon at the Conference in New York between mill employers and employees. On June 10 a new mill was opened with a capacity of 80 tons a day, bringing the daily output up to 330 tons. Since then a further 85 tons has been added and on July 10 another 85 tons, bringing the total output up to 500 tons per day, which is exactly double the newsprint capacity of last year.

Abitibi Company's Dividend.

THE stock market in Montreal received a shock last month by the announcement that the Abitibi Power and Paper Company had passed its dividend. The announcement, which came as a surprise, completely demoralised the market and all the paper stocks broke badly. The papers stated that the company has large payments to make on account of new installations which had been made in the plant for practically doubling the output. It was only recently that the company reduced the dividends to \$4.00 per share, and the fact that the dividend has now been entirely wiped out has produced a gloomy feeling, coming as it does on top of the Riordon trouble. When the Abitibi company was reorganised in 1919, with 250,000 shares of no par value in the place of the old \$5,000,000 par value stock, the dividend was placed on a \$6.00 basis or equivalent to 30 per cent. on the former capitalisation. The decision of the Abitibi Company to defer its dividend was taken at a recent meeting of the directors in Montreal. In making the announcement after the meeting, it was stated that a decision had been agreed to because of the strike which necessitated the closing down of the plant for four weeks and also in view of the desirability of conserving cash during the unusual general business conditions prevailing at the present time in all industries.

AMERICAN NEWS.

News Print Strike.

A STATEMENT was recently issued by the International Paper Co., of New York, to its employees who had been on strike since May last, which had the effect of inducing a great number of the men to return to the mills. The notice stated that if the striking employees returned to work by July 5 they would receive wages which were approximately 95 per cent. in excess of those paid by the company in 1914.

Reductions in Wages.

WAGES of 900 employees in the Wisconsin Rapids, Biron and Stevens Point divisions of the Consolidated Water Power and Paper Company were reduced 20 per cent. on July 1 in accordance with an agreement reached at a conference of mill officials and a committee representing employees last week. The new scale is the same as was in effect on May 1, 1919. In the agreement with the employees signed May 1, 1921, it was specified that the company was to maintain the scale then in effect as long as possible, but the decrease in the price of paper and the condition of the market made it necessary for the company to announce a new scale. The new scale for common labour is 45 cents an hour. The Interlake Pulp and Paper Company at Appleton, a branch of the Consolidated company, reduced its scale 20 per cent. a short time ago. Nearly every paper mill in Wisconsin now has put reduced wage scales into effect. Strikes followed wage cuts in four of the mills.

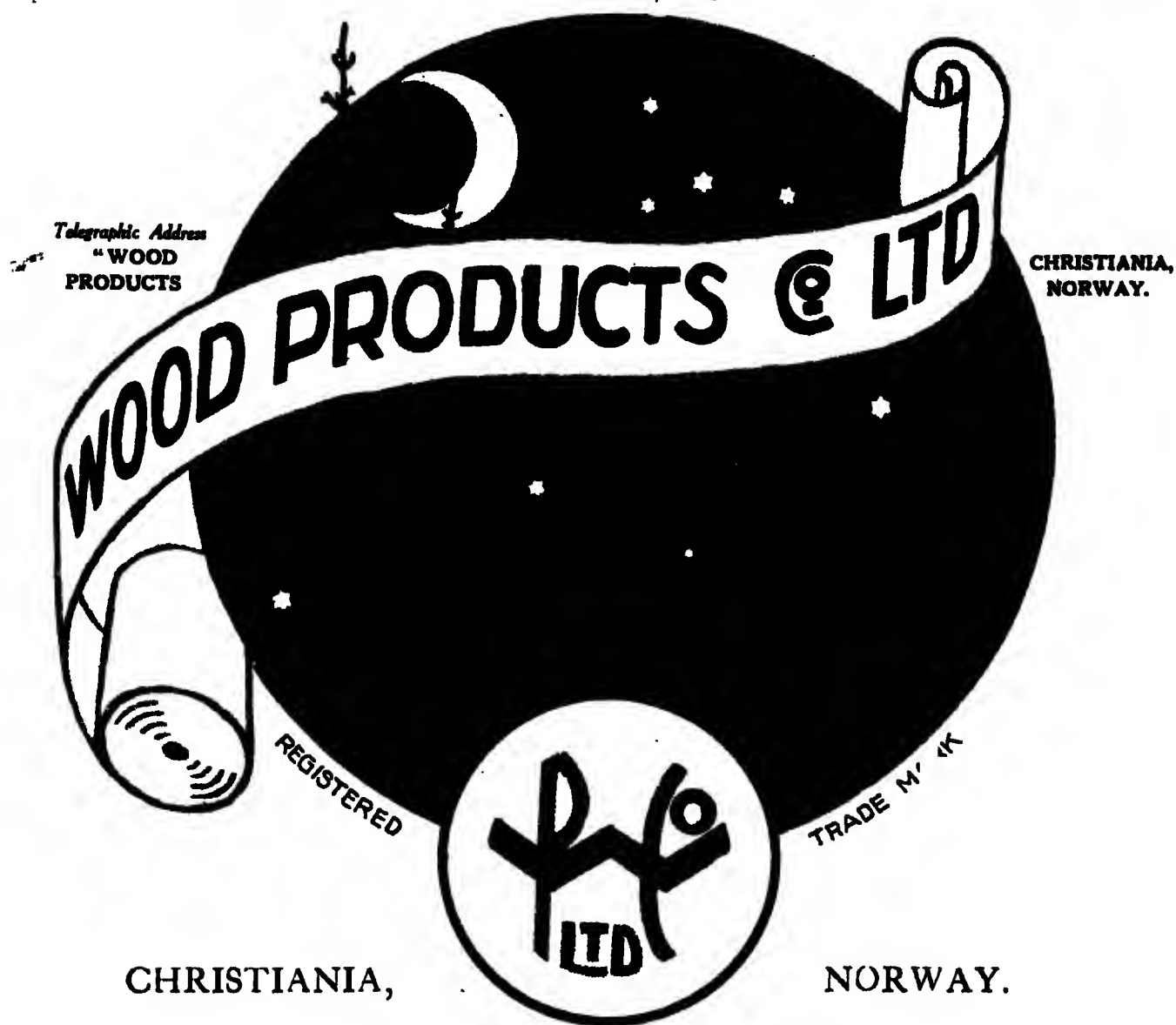
A Pulp Mill in Alaska.

THE Alaska Pulp and Paper Company has erected a pulp mill of two four-pocket grinders in Snettisham Arm, in the Tongass National Forest, near Juneau. Power is derived from Tease Lake, a short distance back from the shore, and consists of a flume and pipe line direct to a Pelton wheel on the same shaft with the grinders. About 2,000 horse-power is secured. Construction began last May, and the first run of pulp came off the wet machine on January 12. It is not the plan of the company to manufacture paper at this time, but merely to demonstrate the feasibility of the manufacture of pulp in Alaska. For the present, the pulp will be shipped to the States for manufacturing into paper, and later a paper mill may be erected. The forest service has made an initial sale of 100,000,000 feet of spruce and hemlock timber to the company. This timber is in several tracts close to the mill, and will be sufficient to meet their requirements until such time as they can increase their capacity.

American's Views on Conditions in Germany.

THAT Germany's apparent crushing defeat sustained at the hands of the Allies will in the end redound to its good, is the interesting theory recently advanced by a prominent American paper man. Industrial conditions were under discussion and the statement had been made of the great activity in all lines of German manufactures, the long hours, the low wages, the apparent willingness to work under any and all conditions. Mr. S. B. Munro says:—"The years of toil, hardship and sacrifice ahead of Germany will greatly benefit those people as a whole. More than the mere payment of a heavy indemnity and debts is the fact that such sacrifices tend to harden a nation or people and make them capable of meeting other trying conditions and successfully overcoming obstacles. On the other hand, I fear that America is becoming soft. Capital and labour alike has accepted the easiest way in its conduct of life. We are building up little determination to grapple the problems that confront us in the future."

PAPER—BOARDS—PULP



LARGE EXPORTERS
of
"NEWS" on REELS
AND ALL CLASSES OF
Printings and Wrappings

PAPER PICTURES.

A difficult problem on which the film industry has been at work for a long time seems to be on the verge of solution. The power of the film as an educational instrument has come to be widely recognised, but any general move in the direction of bringing the cinematograph into the schools and colleges has been frustrated by the heavy outlay which is entailed by the installation of a machine and the provision of a library of suitable educational films.

The Kinerexflex projecting machine has recently been shown privately in London; it can be put on the market as a commercial proposition for £20, if not a little less, and light for it can be obtained from the ordinary electric light installation of a private house. The machine (says the *Times*) is a development of the old-fashioned magic lantern, and the "gate" through which the film passes is at right angles to the screen. The light is not thrown directly on to the film, and this makes possible a number of interesting developments. The picture can be stopped at any point for an indefinite period—a great advantage to a lecturer—as the film is not subjected to heat, and as an added protection a gauze shutter can be used while the picture is stationary. But the most important development is that the celluloid film, always a somewhat expensive luxury, can be dispensed with.

At the demonstration last week the only films used were printed on ordinary opaque paper, which had been fire-proofed beforehand. The pictures were then printed and the strip of paper perforated in the ordinary way. By the time a celluloid film has been run through the projector 50 times there are distinct signs of wear and tear, but the pictures printed on paper have already been run through some hundreds of times, and on the screen they appear as good as ever. It is believed that paper films can be produced at about a quarter the cost of celluloid films; in other words, at about 3s. a thousand feet, while by means of the three-colour process of printing, a coloured film picture can be obtained. There are obviously great possibilities in the invention, particularly if experience proves it to be really a commercial proposition. It has already received the approval of the Cinema Commission of Inquiry, and it is to be brought to the notice of educational authorities without delay.

GREEN COPPERAS

Immediate supplies
in bulk or cases. ..

SWEDISH REFINED TURPENTINE

Immediate supplies at exceptional low prices.

JOHN R. SCHOLES 14 Argyll Chambers,
97, Hanging Ditch, **MANCHESTER**

'Phone: 7688 Central.

Tel.: "Naphthol, Manchester."

LUBRICANTS

GRAPHITED
OIL

"OILDAG"

(Reg.) Brand

GRAPHITED
GREASE

"GREDAG"

(Reg.) Brand

GRAPHITED
WATER

"AQUADAG"

(Reg.) Brand

Sole Manufacturers:

E. G. ACHESON LTD.,

Dept. P, 40 Wood St.,
WESTMINSTER

Wks.: **PLYMOUTH**
DEVON

Special Prepaid Advertisements.

SITUATIONS VACANT, BUSINESSES WANTED or FOR DISPOSAL, MILLS WANTED or TO LET, MACHINERY, and MISCELLANEOUS are inserted at Six Shillings for twenty-four words or under; Two Shillings extra for every subsequent line or portion of a line.

LEGAL AND PARLIAMENTARY NOTICES, FINANCIAL ANNOUNCEMENTS, TENDERS, SALES BY AUCTION, &c.—2/6 per line.

CHEQUES and Post Office Orders to be crossed and made payable to **S. C. PHILLIPS & Co.**

Offices: 47, Cannon Street, London, E.C.

448 & 450, Produce Exchange, Manchester.

3 HORIZONTAL REVOLVING BOILING KEIRS, 20' x 9', 45 lbs. pressure, as new, complete with gearing.—Address **WHITE, Two-Dales, Matlock.** **JUNE—774.**

RECOVERY AND REMANUFACTURE OF WASTE PAPER BY **JAMES STRACHAN**, 12s. 6d. Copies can be had from **THE PAPER MAKER Office**, 47, Cannon Street, London, E.C.4.

SULPHATE OF ALUMINA 14/15% and 17/18%, pure and ferric. Potash Alum, Bichromate of Soda and other Chemicals for disposal. Cheap prices. Inquiries invited. **PAUL WINN & Co., LTD.** 72, Mark Lane, London, E.C.3. **AUG.—781.**

TRAVELLER REQUIRED having good connection with Provincial wholesale paper buyers. Knowledge of Scandinavian papers essential.—Apply by letter, giving full particulars in confidence to "A. W." Box No 779, **THE PAPER MAKER Offices**, 47, Cannon Street, E.C.4 **JULY—779.**

BOXBOARD PLANT. Wanted to Purchase, Multiple Cylinder Plant. Complete equipment and mills would be entertained.—Particulars, treated as confidential if desired, to **STANLEY ROBINSON & COMMIS, Solicitors**, Aldwvch Chambers, 170, Strand, W.C.2 **JULY AND AUGUST—776**

AN OLD-ESTABLISHED LONDON FIRM OF WHOLESALE PAPER MERCHANTS seeks a representative for its Wrapping and Packing Papers' Department. A thorough knowledge (buying and selling) essential.—Reply Box 775, c/o **THE PAPER-MAKER Office**, 47, Cannon Street, E.C.4.

775.

FOR SALE.

PAPER-MAKING MACHINE. Complete new, built by Messrs. Thiry & Co., Belgium, 1921. Immediate delivery in Belgium, with builders' guarantee, and fitted with all modern improvements.

Width of wire 102½" (finished paper 90½").

3 Presses.

Semi-American type Drying Part, comprising 26 drying cylinders giving a total linear drying length of 323' 7½".

At the end of the drying part is a large Drying Cylinder, 78½" dia.

Cooler, Damper, Slitters.

Drive: Lengths of steam pipes.

3 Lamort Strainers and

1 Hauboldt Calender with 10 bowls, constructed 1921, complete with all modern improvements.

Reply to Box 780, c/o **THE PAPER-MAKER**

Office, 47, Cannon Street, E.C.4. **AUG.-SEPT.—780.**

REX WEDDALL & CO.

WOODPULP
and PAPER
a Speciality

FORWARDING AGENTS

42, Deansgate, MANCHESTER
and at **THE DOCK, FRINTON**
Tel.: "Release." 'Phone 1 7350 Central

Telephones :

AVENUE 8888

" 8888

" 8321

AVENUE 1729

(3 lines.)

M/O CENTRAL 1882
(2 lines.)

Chas. Page & Co., Ltd.

(ESTABLISHED 1880)

47/51, King William Street, London, E.C.4.

MANCHESTER : 26 Brown Street.

Telegrams :

" PAGANNI,"

LONDON.

" PAGANNI,"

MANCHESTER.

PRUSSIAN BLUE
PAPER MAKERS' COLOURS
BARIUM CHLORIDE
ANTICHLOR
PIGMENTS

PRUSSIATES OF SODA
AND POTASH
BICHROMATES OF SODA
& POTASH
GLUE & GELATINE
LEAD ACETATE
BLANC FIXE

ALL PAPER MAKERS' CHEMICALS, COLOURS AND SUNDRIES.
TEST OUR SERVICE AND QUOTATIONS.

Soluble Brown Crystals

Soluble Brown Paste

Carbon Black

Mineral Black

English Umber

(Lump & Powder)

Pulp Colours

Bronze Paste Blue

Powdered Soluble Blue

Paper-makers' Ochre

Red Oxide

Ultramarine Blue

(Alum Proof)

Aniline Dyes of every description

J. L. CARDWELL & CO., Ltd.,

Managing Director . . . A. R. LUGAN.

11, Blackfriars Street, MANCHESTER.

Tel. No. 2636 City.

Tel. Address : " Oxidation."

TO PAPER AND PULP MILLS AND ALLIED INDUSTRIES.

ARE YOU SHORT OF COAL?

YOU NEED NOT BE SHORT OF STEAM!

Practical Science can fit your Boilers (any type) in a few hours, without drilling to plates, with a furnace guaranteed to maintain a full head of steam independently of coal.

No Grin.

No Smoke.

**LOW Initial Cost.
NO Upkeep Costs.**



EASY TO CLEAN.

A favourite with all
intelligent firemen.

Rapid Steam Raiser.

Marked Flexibility.

Write and ask for record of actual achievements of the Turbine Furnace, without Seal. See it at work in the boiler houses of your competitors, exceeding its guarantee.

THE TURBINE FURNACE COMPANY, LTD.

Telephone:
CITY 7467

5, Budg. Row, London, E.C.4

Telegrams: "Asunder,
Cannon, London."

BOILER AND PIPE COVERINGS



Crown Slag Wool & Steel Sheeting.

The most efficient
covering ever tested.

96% SAVING

Telluric Cement.

The most durable
plastic covering
in use.

CROWN ASBESTOS. 85% MAGNESIA.

SUTCLIFFE BROS. & BRYCE, Ltd.

Telephone—
Hyde 70.

SEAL WORKS, HYDE, Nr. MANCHESTER.

London Works—Seal Wharf, High Street, Stratford, E.15. Established 1869

Buy PAPERS

of Continental origin

from

J. BACHTOLD & Co.

FAHRENGASSE

ZURICH

(Switzerland)

A. W. K. TRUEMAN & SON,

LONDON. LEICESTER. BIRMINGHAM

Paper and Board Merchants,
Imports and Exports.

NEWS on REELS and in SHEETS
PRINTINGS.

KRAFT.

VEGETABLE PARCHMENT.

GREASEPROOF.

TISSUES.

SULPHITES.

BOARDS.

STOCK LIST ON APPLICATION

RE-REELING & SLITTING DONE FOR THE TRADE

47, FLEET STREET, LONDON, E.C.4.

Telephone:
CITY 4718,

Telegrams:

"AWKTETFILS, FLEET, LONDON."

STEINBACH & CO.

SOC. ANONYME,

MALMEDY :: :: BELGIUM.

ESTABLISHED 1767.

Manufacturers of Superfine Tub Sized

Papers and Boards

TYPEWRITING,
WRITING,
LEDGER,
DRAWING
Papers.

□ □ □

POSTCARD,
PHOTOTYPE

(For Photo-Engraving, Collotype Printing, &c.)

IVORY,
OPALINE
Boards.

Raw Ferrogallic, Ferroprussiate and Sepia Papers.

Raw TRACING Papers.

Etc.

TRADE ONLY.

All Enquiries should be sent to our London Representative:

L. H. GORIS, 3, Budge Row, Cannon Street, E.C.4

Telephone :—BANK 8163.

We can apply OUR KNOWLEDGE to suit YOUR NEEDS.



A.C. & D.C. MOTORS

FOR
PAPER MILL
DRIVES

($\frac{1}{8}$ to 1,500 B.H.P.).



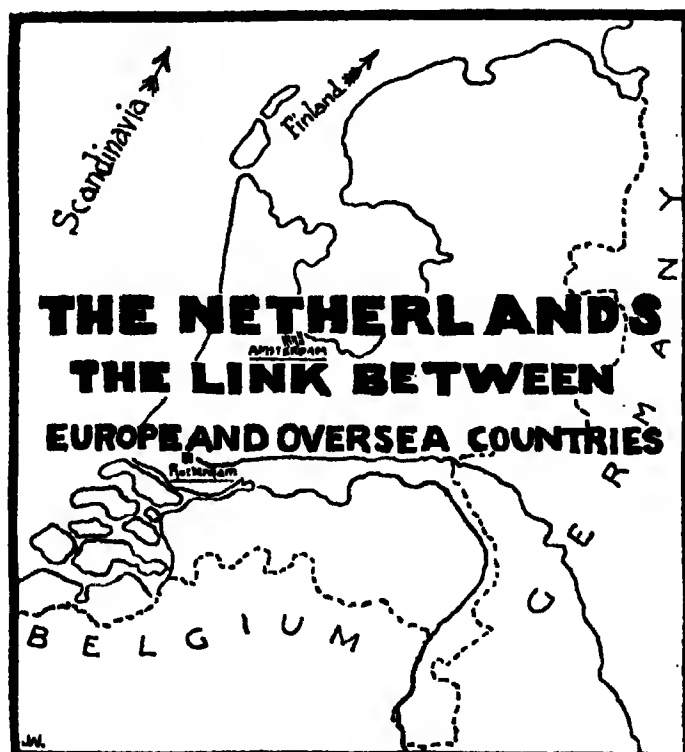
We will gladly advise you of the type of motor and the methods of application to give the BEST DRIVES for your plant.

WORKS :
TRAFFORD PARK
AND WILLESDEN.

LANCASHIRE DYNAMO MOTOR
CRYPTO ELECTRICAL

HOME SALES OFFICES:
Birmingham Glasgow
Bristol London
Cardiff Newcastle
Dublin Trafford Park
and Willesden.

PAPER AND BOARD EXPORTERS



N.V. DE NEDERLANDSCHE PAPIERHANDEL, AMSTERDAM (HOLLAND).

Cables: KEEBENST, AMSTERDAM.
Codes: A.B.C. (5th Ed.), Bentley, Liebers'.

We execute your orders for GERMAN, and any other CONTINENTAL Mills CHEAPLY, RELIABLY and QUICKLY.

NO RISKS! NO PAYMENTS IN ADVANCE! NO COMPETITION!

We have the CONTROL of SEVERAL CONTINENTAL MILLS, and CONTRACTED THEIR ENTIRE OUTPUT for EXPORT.

We can supply ANY Paper and ANY Board both from Stock and for Making.

Sole Agents for the UNITED KINGDOM:

M. RELPH, LTD.,

212, UPPER THAMES ST., LONDON, E.C.4.

For any other country apply directly to AMSTERDAM.

Bankers: AMSTERDAMSCHER BANK, Amsterdam.

Correspondence in English, French, German, Spanish and Italian invited.

PLEASE STATE REFERENCES.



HYATT

(TRADE MARK)

ROLLER BEARINGS FOR DRYING CYLINDERS

Put Hyatt Roller Bearings on the Drying Cylinder Shafts and the efficiency of the whole machine is immediately increased.

Hyatt Bearings are dependable and require practically no lubricant after first charging. Our Engineers will be glad to advise on the best construction and size of bearing to adopt.

HYATT LTD.

THURLOE PLACE, LONDON, S.W.7.



No. 373

LOCOMOTIVES



All Sizes and to suit any Gauge of Railway.
Prices, Photographs and full specifications on application.

Peckett & Sons, Ltd., Bristol.

[Telegraphic Address: "PECKETT, BRISTOL."]

WASTE PAPER IS VALUABLE—BALE IT.

GUEST'S ALL-METAL BUNDLING PRESS FOR WASTE PAPER

AND PRINTERS' WASTES OF EVERY DESCRIPTION.



**Powerful
Ratchet
Motion.**

**STRONGLY
CONSTRUCTED.**

**PRICE
£20**

F.O.R.
(Subject).

**Footproof
and
Fireproof.**

**Quick
Return
Action.**

**SIMPLE
AND RELIABLE**



This Press is the cheapest and best small machine on the market and is English made throughout, it is easy to work and takes very little room, and all waste materials sell at a better price when banded. The Press is delivered ready to work, and makes a bale 26 in. x 15 in. x 30 in. The pressure is applied by means of a powerful ratchet, and a winding handle is fitted, giving an extremely quick return.

HOLLINGS & GUEST, Ltd., THIMBLE MILL LANE, BIRMINGHAM.

JOHN M. WATSON & CO.

—CROWNPOINT WORKS—
37-39, DAVID ST, GLASGOW

SUPPLIERS OF

Paper-Making Materials

HOME AND EXPORT

WASTE PAPERS—RAGS—NEW CUTTINGS
ROPES—JUTE—CANVAS—BAGGING.

*All our stocks graded to suit
Paper-makers' requirements.*

ENQUIRIES SOLICITED.

Telegrams & Cables: "Cellulose, Glasgow." Telephones: 66 & 9027 Bridgton.
Codes: A B C (5th Edition), "Waste Merchants," "Western Union."

New Process of Silicate Cotton (Slagwool Covering)

Write for Estimates.

(Patent No. 13693).

LONSDALE BROS. LTD.,

Pump St. Works, Bank Top, BLACKBURN.

Boiler Covering Manufacturers and Contractors.

Specialities:

Solidified Slagwool Insulations. Engine Lubrication & Cylinder Coatings.
Asbestos Coverings in all grades. Patent Removable Economiser Covers.
Magnesia, Sectional & Plastic Coverings. Flange & Valve Covers.
Telegrams: "PLASTIC, BLACKBURN." Telephone No. 625.

LEWIS CLEGG & SON,

Examiner Buildings, Strutt Street, MANCHESTER.

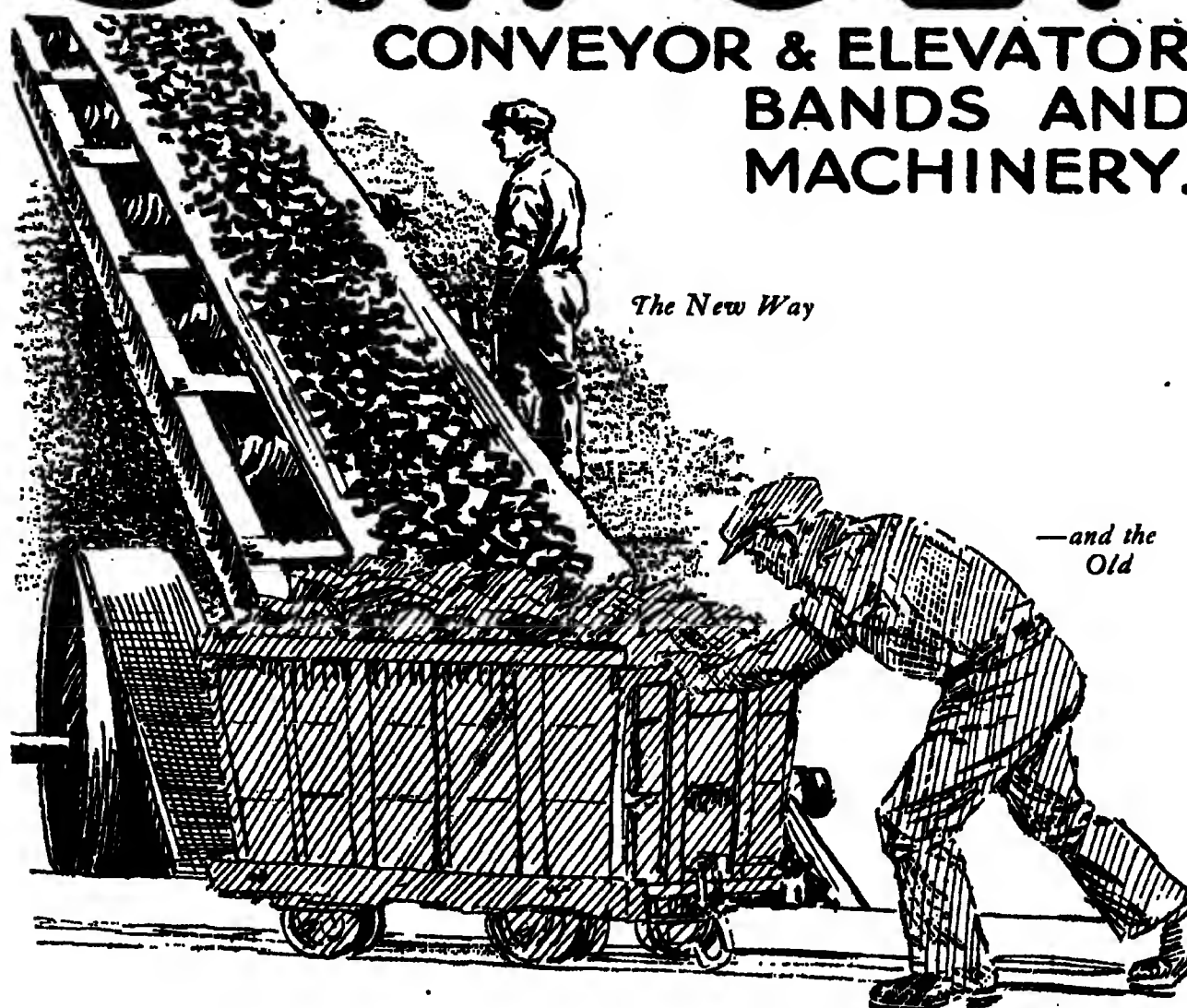
Telegraphic Address: "Conifer." Telephone No.: City 6585
Works: Stalybridge.

ULTRAMARINE BLUES

PATENT

GRIPOLY

CONVEYOR & ELEVATOR
BANDS AND
MACHINERY.



GRIPOLY Conveyor and Elevator Bands and Machinery are proved time and labour saving devices. The saving in time and expensive labour is easily demonstrated.

Let us send you a copy of our booklet, which tells you how to deal with Conveying and Elevating problems. It will be sent free on request.

LEWIS & TYLOR, LTD.,

2, St. Thomas' St., London, S.E.1.

Works: Grange Mills, Cardiff.

BRANCHES AND TECHNICAL SERVICE DEPOTS AT: Manchester—45, Deansgate Arcade;
Birmingham—Colmore Chambers, 1, Newhall Street; Sheffield—185, Abbeyfield Road,
Pitsmoor, Sheffield; Glasgow—57, Oswald Street; Newcastle—13, Akenhead Hill, Quayside.

Telephone : CITY 6348.

Telegrams : "PACKERIES, LONDON."

The Forester Paper Co. (1917) Ltd.

1, Foresters' Hall Place,
CLERKENWELL, E.C.1.



MANUFACTURERS OF
Corrugated Paper
Cartons, Gum-Sealed
∴ or Wire Stitched ∴

Corrugated Wrapping
∴ up to 80 inches wide ∴

Corrugated Boxes of all
∴ ∴ descriptions ∴ ∴

Factory :
VICTORIA ROAD, ACTON, W.3.

PACKING PAPER
SPECIALITIES.

CORRUGATED
PAPERS & BOXES,
Etc.

WAXED PAPERS.

EMBOSSD
PAPERS.

PAPER
SHAVINGS, Etc.

FANCY PAPER
SPECIALITIES.

CRINKLED AND
CREPE PAPERS.

SHIRT AND LACE
PAPERS.

CONFETTI.

GARLANDS, Etc.



HIGH-CLASS
ECONOMICAL
HORIZONTAL AND
VERTICAL STEAM
ENGINES,
WITH CORLISS
OR PISTON
DROP VALVES.
UNIFLOW ENGINES.
MILL GEARING.

We have supplied Engines of upwards of 36,000, I.H.P. to British and Foreign PAPER MILLS alone.

Pollit & Wigzell, Ltd.,

Engineers and Millwrights,

SOWERBY BRIDGE, YORKSHIRE.

Telegraphic Address : "Prow, Sowerby Bridge."

National Telephone No. 1565 (2 lines).

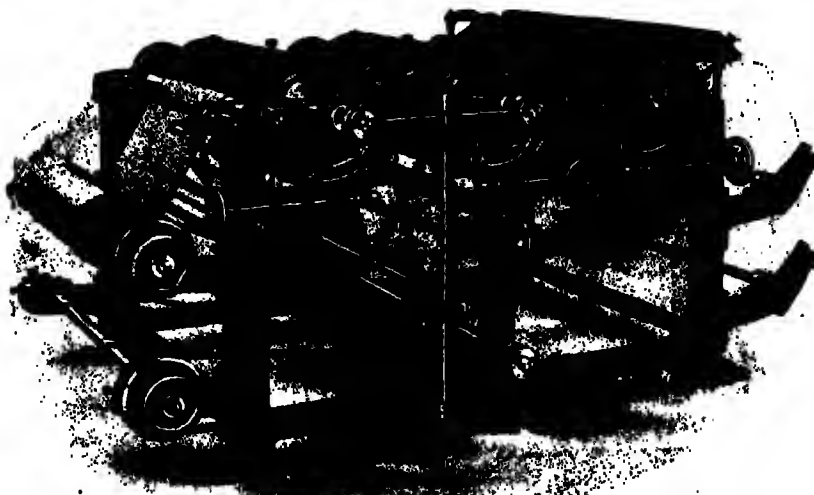
PRICE & PIERCE, LTD.

WOOD & PULP

**LONDON
NEW YORK
LIVERPOOL
MANCHESTER
GLASGOW**

Lang Bridge Ltd.

Makers of Machinery for Paper Mills



PAPER BRUSHING MACHINE.

Paper Coating Machines with Festooning Arrangement (with or without Turntable), Hot Air Drying Apparatus, Self-acting Rod Box, and Reeling Apparatus.

Calenders.

Paper Brushing Machines with three Large Circular Brushes.

Re-reeling Machines.

Slitting and Cutting Machines.

Pasting Machines for three Webs of Paper.

Paradise Works, Accrington, Lancs.

J. E. SALVESEN & Co., Ltd.

AND

GORDON WATTS & Co.

Timber and Wood Pulp Agents

LONDON

158, Fenchurch Street, E.C.3.

MANCHESTER

448/450, Produce Exchange Buildings.

EDINBURGH

9, Greenhill Park.

Telegrams { Salvesen } LONDON.
Cernod

Salvesen } MANCHESTER.
Cernod

Johanni EDINBURGH.

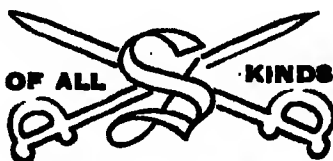
Telephone : CITY 4998 & 4999 (two lines.)

Telegraphic Address : "OTHERWHILE, LONDON."

PAUL SABEL & CO.

PAPER AGENTS

IMPORT AND EXPORT



REGISTERED DESIGN.

SOLE AGENTS IN THE UNITED KINGDOM for :

GUSTAFSFORS Skapafors,	FABRIKERS	AKT., Sweden.	<i>Makers of M.G. & Unglazed Pure Kraft thin and thick substances.</i>
CARTIERA ROSSI, Casella Postale, 25,	Vicenza,	Italy.	<i>Makers of Fine Rag Tissues for all purposes, also watermarked and plain Copying Papers, and Bible Papers.</i>
WIEDE'S PAPIERFABRIK, ROSENTHAL, Rosenthal-Reuss,		Germany.	<i>Makers of Wood and Wood-free Fine Super Calendered Printings and Coated Art Papers.</i>

SELLING AGENTS IN THE UNITED KINGDOM for :

AKT. KLIPPANS Klippan,	FINPAPPERSBRUKS Sweden.	<i>Makers of Tissues, White & Coloured, and other grades.</i>
----------------------------------	-----------------------------------	---

26, UPPER THAMES ST., LONDON, E.C.4.

WIGGINS, TEAPE & Co.,

MILLS

Withnell Fold, nr. Chorley, Lancashire.
Buckland Mills, Dover, Kent.
Conqueror Mills, Dover, Kent.
Glory Mills, Wooburn Green.
Millholm Mills, Cathcart, Glasgow.
Crabble Mills, Dover, Kent.
Devon Valley Mills, Hele.

London Offices & Warehouses :

10 & 11, ALDGATE, E.I.

TELEPHONE NOS. : 4361 & 4362 AVENUE.

" " 12338 CENTRAL.

TELEGRAPH ADDRESS : "TEAPE, ALD.,
LONDON."

(1919) LIMITED.

Makers of Bank, Ledger, Writing, Loft
Dried, Ammunition, Drawing, Chart,
Blotting, Cartridge, Tinted, Loan,
Envelope Papers, and continuous
Cartridges.

SPECIAL PAPERS FOR TYPEWRITING "TYPOGRAPH."

"W. T. & Co. Extra Strong Bank, '3005.'"
"W. T. & Co. (Greyhound) Bank."
"Devon Valley Bond."
"Devon Valley Parchment."

"Devon Extra Strong."
"1011 Bank."
"Hercules Extra Strong."
"Dover Bond."

"Bullion Bank."
"Buckland Bond."
"Primrose Bank."
"Ragione."

ACCOUNT BOOK AND WRITING PAPERS

"Hercules."
"Hercules Extra Strong."
"R. Turner, Chafford."
"Bond of England."
"W. T. & Co."
"Lancashire Loan."
"Lancashire Ledger."
"Lancashire Parchment."
"Chafford Loft-dried Vellum."
"Superfine Chafford Loft-dried."
"Ragione Ledger."
"Wiggins, Teape & Co."

"Stronghold."
"Goat Skin Parchment."
"Devon Valley Superfine."
"Devon Valley Ledger."
"Devonia."
"Grand Ledger."
"Conqueror."
"Sandfield."
"Southern Cross Superfine."
"Southern Cross Pine."
"Chorland."

"Redlands."
"Fairlawn."
"Original Buckland Mill."
"Buckland."
"Hopbloom."
"Chanticleer."
"Golden Crown."
"Original Cream Wove Aldgate."
"E. P. B."
"Fiery Cross."
"Original Hele Mills."
"431 Mill Blotting."

Photographic Papers, Ferro-Prussiate Papers, Raw Tracing Papers

Blank and Opaque Bank Envelopes.

Samples and Quotations on application.

COCK O' THE WALK.

COCKSBARROW CHINA CLAY WORKS

The Highest in Cornwall.

**Parkyn &
Peters,**

GLENVIEW, ST. AUSTELL

LONDON :

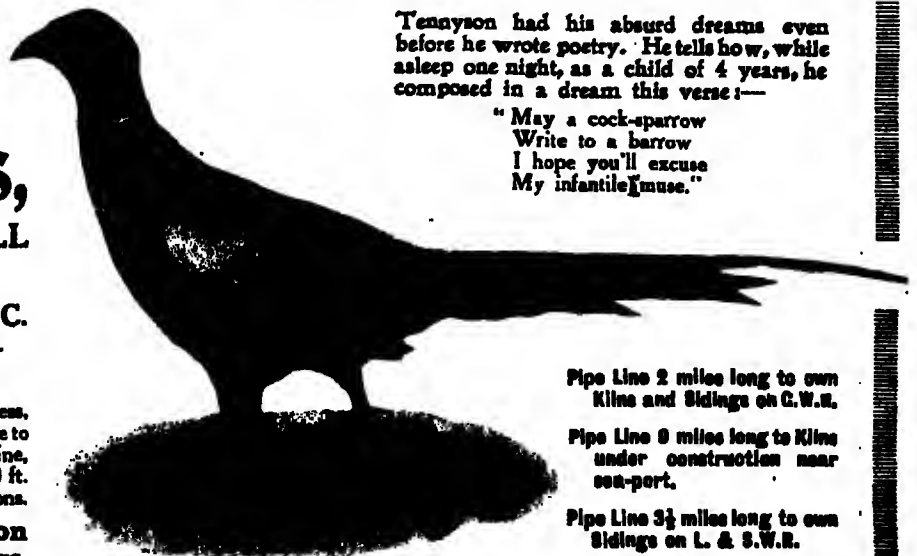
32, Queen Victoria Street, E.C.

Telegrams—Parkyn, London; Peters, St. Austell.

7 MINES :: 12 KILNS

N.B. For despatch in shipping and cleanliness,
our Clay is gravitated by means of a pipe line to
Drying Kilns erected alongside the main line,
Great Western Railway where we have 3,000 ft.
of private sidings and our own Railway Wagons.

NOTE.—The same old London
address for 40 years.



Tennyson had his absurd dreams even
before he wrote poetry. He tells how, while
asleep one night, as a child of 4 years, he
composed in a dream this verse:—

"May a cock-sparrow
Write to a barrow
I hope you'll excuse
My infantile muse."

Pipe Line 2 miles long to own
Kilns and Sidings on G.W.R.

Pipe Line 6 miles long to Kilns
under construction near
sea-port.

Pipe Line 3½ miles long to own
Sidings on L. & S.W.R.

Finska Pappersbruksföreningen

(THE FINNISH PAPER MILL ASSOCIATION).

Sales organisation for all the 31 paper mills of Finland, with 70 paper machines and 220,000 tons yearly capacity, out of which about 40 per cent. is news.

Telegraphic Address: "Finpap, Helsingfors."

Finska Cellulosaföreningen

(THE FINNISH CELLULOSE UNION).

Sales organisation for all cellulose mills of Finland, with a yearly capacity of 250,000 tons.

Telegraphic Address: "Finncellulosa, Helsingfors."

Finska Träsliperiföreningen

(THE FINNISH WOOD PULP UNION).

Sales organisation for 25 pulp and board mills of Finland, with a yearly capacity of 140,000 tons.

Telegraphic Address: "Sliperierna, Helsingfors."

KNUT EGGERS

PAPER AGENTS
and MERCHANTS
HOME and EXPORT

SPECIALITIES: _____

**KRAFT BROWN, CAP
SULPHITE
GREASEPROOF NEWS**

PARIS.

(Head Office)

8, Oite Pigalle (9c)

Télégrams: "Jeneggars, Paris."

Telephone: (4 lines)

Central 46-62. Louvre 10-44

LONDON.

(Branch Office)

55, Ludgate Hill,
E.O.4.

Télégrams:

"Editorship, Cent, London."

Telephone: City 7542.

Please apply for quotations and samples.

AULD'S Patent REDUCING VALVES

are well-known to ENGINEERS in
PAPER MILLS throughout the world.

Our New Patent "QUITETITE" Valve

is highly
recommended
for its
SIMPLICITY
and has
already
established
itself as



THE MOST
ACCURATE
& RELIABLE
REDUCING
VALVE
ON THE
MARKET
TO-DAY.

*We have
received*

NEARLY A
HUNDRED YEARS'
EXPERIENCE
IS BEHIND OUR
VARIOUS
SPECIALITIES, viz.,

*countless
Repeat Orders.*

REDUCING, SAFETY,
SURPLUS AND STOP
VALVES,
AUTOMATIC
EXHAUST VALVES,
ETC.

Catalogues

on application.

**DAVID AULD & SONS, Ltd.
WHITEVALE FOUNDRY, GLASGOW.**

PAPER MAKING MACHINERY

Only Canadian builders of paper machines.

HYDRAULIC TURBINES

Canadian manufacturers of I.P. Morris Hydraulic Machinery.

DOMINION ENGINEERING WORKS, LIMITED.
MONTREAL, CANADA.

Cable Address :

"DOMWORKS, MONTREAL."

FELBER, JUCKER & CO.

(Established 1860)

LTD.

MANCHESTER:

Head Office:—

29, PETER STREET.

Telephone:—
CITY 7799 (Private Exchange).*Telegraphic Address:—*
"FELBER, MANCHESTER."

LONDON:

77/79, CANNON ST., E.C.4.

Telephone:—
CITY 6088 & 6089.*Telegraphic Address:—*
"FELBER, CANNON, LONDON."

CODES:

A.B.C. 5th and 6th Edition. Liebers. Western Union. Hamilitens. Private.

Branch Offices:

BOMBAY, BUENOS AIRES, JOHANNESBURG and MILAN.

WHOLESALE ONLY.

Papermakers' Agents

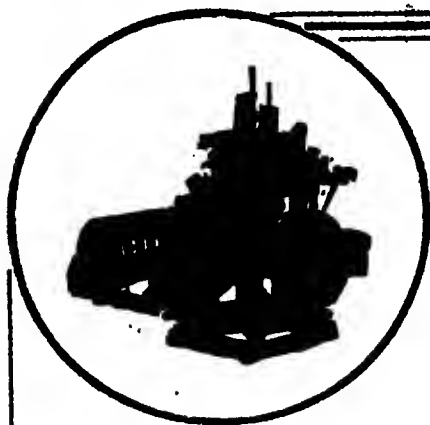
WHOLESALE ONLY.

Largest Importers & Exporters of All Classes of
BOARDS & PAPERS

Agents: **Finnish Board Union**

Comprising:—

Enso, Myllykoski, Kymmene, Tammerfors, Karhula, Pankakeski,
 Kaltimo, Aankoski, Hamikoski, Ingerols, Lonnqvist, Herrfors,
 and Nasijarvi Mills.



**CAN YOU MEET COMPETITION WITH
YOUR PRESENT EQUIPMENT? ———**

THE
LATEST IMPROVED

TRADE MARK
"LEADER" ENVELOPE FOLDING &
GUMMING MACHINE

PRODUCES FINISHED ENVELOPES FROM THE BLANK IN ONE
OPERATION WITH ONE OPERATOR AND AT A SPEED OF 130 PER MIN.

UNRIVALLED FOR SPEED, EFFICIENCY
AND HIGH CLASS WORK.

ALL MACHINES ARE ENTIRELY
OF BRITISH MANUFACTURE

**BLANK CUTTING
MACHINES**

FOR CUTTING ENVELOPE BLANKS, Etc.

**TISSUE LINING
MACHINES**

FOR AFFIXING TISSUES TO ENVELOPE BLANKS

SEND US YOUR ENQUIRIES

PRICES & FULL PARTICULARS ON APPLICATION

TELEGRAMS:
"AUTOMATON
GLASGOW"

DAVID CARLAW & SONS Ltd.
31 Finnieston Street, GLASGOW

TELEPHONES:
CENTRAL 1262
" 1263

CABLES: "UNBLUNTED, LONDON."
CODE: A.B.C. 5TH EDITION.
" BENTLEYS.

TELEPHONES: CITY 498 (2 lines).
TELEGRAMS: "UNBLUNTED,
CANNON, LONDON."

JOHNSTON, HORSBURGH & Co.,

W. W. HORSBURGH.
J. W. S. JOHNSTON.

PAPER MAKERS AGENTS.

20-21, *Queenhithe,*
London, E.C.4.

**SOLE LONDON REPRESENTATIVES
FOR 8 MILLS.
OUTPUT 1,000 TONS WEEKLY.**

MILL INVOICE.

WHOLESALE AND EXPORT ONLY.

WHAT ABOUT YOUR STOCKS?

ARE THEY SELLING?

If not, get in touch with a "Live Wire"
firm of Merchants.

Do not sit on the fence waiting for
orders to come_____

THEY MUST BE FOUND AND BROUGHT HOME !

WE ARE
IMPORTERS AND EXPORTERS

ALL TRADES USING PAPER CATERED FOR.

**PRINTERS AND PUBLISHERS SHOULD NOT FAIL
TO ASK US FOR QUOTATIONS BEFORE BUYING.**

**STOCKS KEPT OF ALL "GRADES"—NO ORDER
TOO SMALL AND NONE TOO LARGE.**

"NEWS" IS OUR STRONG CARD.

FRENCH PAPERSTOCK COMPANY, LIMITED
24-30, BERMONDSEY WALL, S.E.16.

Telephone :
H O P. 3887
(5 L I N E S).

Telegraphic Address :
"Brenchtack, Rothun, London."

Wharves { PENRHYN
TYSON'S
NORWAY
HALCOMBE

C. M. & M.

HEAT EXTRACTION ENGINE



THE C.M. & M. HEAT EXTRACTION ENGINE.

THIS engine can be used either as an ordinary power unit, or fitted so that steam is extracted from the receiver between the high and low pressure cylinders at constant pressure; the surplus steam, after doing work in the low pressure cylinder, also exhausts to vacuum. The C. M. & M. Heat Extraction Engine also gives surprisingly economical results where a large amount of low-pressure steam is being used for heating or for process work, while in many cases all the power required can be obtained from the steam during the reduction of pressure from that at the boiler to that which is required for process work or heating.

In such cases power is obtained for nothing, as the production of process steam would be necessary in any case.

SEND FOR THE FREE BOOKLET
containing full details and illustrations.

We also make a speciality of the single cylinder Exhaust (or "Uniflow") Engine for installations where steam is not required for heating, etc.



Cole, Marchent & Morley, Ltd.
BRADFORD—YORKSHIRE.

UNIFLOW STEAM ENGINES.



Specially suitable for Paper Makers. Strongly built.

Very Reliable. High Economy.

HICK, HARGREAVES & CO. LTD.,
BOLTON, ENGLAND.

ESTABLISHED 1832:

Telegrams: "HICK, BOLTON."

Phone: 1573.

Makers of Corliss Drop Valve and Uniflow Steam Engines, Diesel Oil Engines, Condensing Plant, Mill Gearing.



ROZOLENE SIZE

FOR PAPERMAKERS.

Sole Makers :
THE ROZOLENE CO.,



**49, DEANS GATE,
MANCHESTER.**

Buy from the Producers.

The Celebrated H.D.P., P. and P.M. Brands of
CHINA CLAYS

Produced at our Halviggan Clay Mines, near St. Austell.

Specially Suitable for All Grades of Paper.

Samples, with prices, sent free on application to :

The Superintendent, 3, St. Petroc House, Bodmin, Cornwall.

TEHIDY MINERALS, LIMITED.

General Managers :
BEWICK, MOREING & CO.

NOW ON SALE

PHILLIPS'

Paper Trade Directory

OF THE WORLD

for 1921

PUBLISHED AT

21/-

by **S. C. PHILLIPS & CO., 47, Cannon Street, London, E.C.4.**

SKIN GELATINES AND GLUES.

PURE SKIN GELATINES AND SKIN GLUES,
FOR PAPER COATING AND SIZING.

HIGHEST GRADES.

OURY, MILLAR & CO.,
9, Mincing Lane,

Telephone—4978 Avenue.
Telegrams—"Olimenth-Fen, London" LONDON, E.C.3.

R. BRUCH & CO.,
CALAMINE, par Verviers
BELGIUM.

MAKERS OF ALL PAPERMAKERS'

FELTS

SOLE AGENTS FOR U.K.

J. A. NORDBERG, LTD.,
31, BREAD STREET,
QUEEN VICTORIA ST.
LONDON, E.C.4.

WE SPECIALISE IN ALL COLOURS
and are the ONLY Irish Manufacturers.

GEO. W. KINKEAD & CO.

Telephone: 729.
Telegrams: "ANILINES."
Codes: { A.R.O. 5th Edition.
MARCONI.

48, 49 & 50, TEXTILE BUILDINGS,
DONEGALL SQUARE, S.,
BELFAST.

Engines.

GALLOWAYS

Boilers.

Write for particulars.

LIMITED
MANCHESTER.
Telephone: 6312 Central.

**Tandem Compound
Drop-Valve Steam Engine,**

with SPECIAL DEVICES
for supplying

**MANUFACTURING STEAM at
STEADY PRESSURE from the
RECEIVER of the ENGINE.**



A New Paper and Board Tester

Q We have developed a Tester in the operation of which the human element is eliminated. The breaking strength of a fabric depends as much upon the speed with which the power is exerted as it does on the power itself; the firmness with which the fabric is held under the clamp also affects the breaking strength.

Q This machine will record the actual square inch resistance exactly the same regardless of who makes the test or where it is made; it can not be manipulated. It embodies the only correct principles of a Tester—a flexible diaphragm acted on by a liquid force of a full square inch area, not a small metal point about 1-64th the content of a square inch calculated up into a square inch reading.

Q It will also give you the crushing strength per square inch of a corrugated board. An item quite as important as the pop test to the manufacturers of Corrugated Shipping Cases.

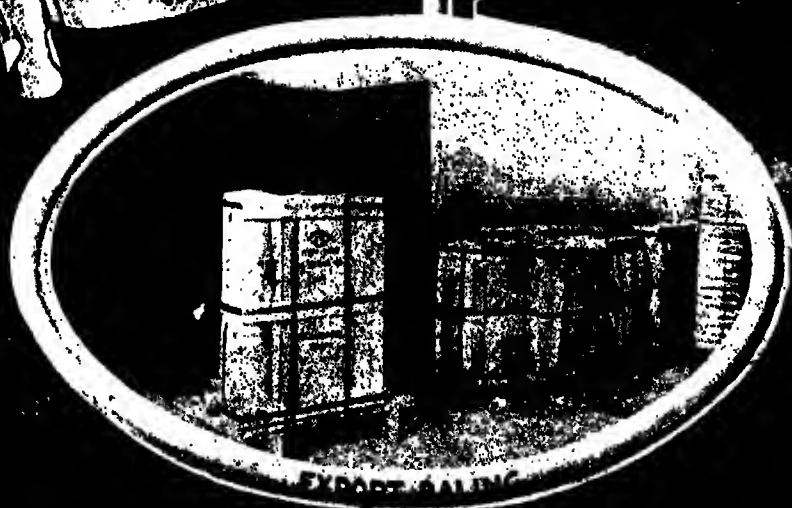
Q It will be made in two sizes, small size for testing paper up to and including 100 lbs., large size up to and including 300 lbs., or 600 lbs. per square inch.

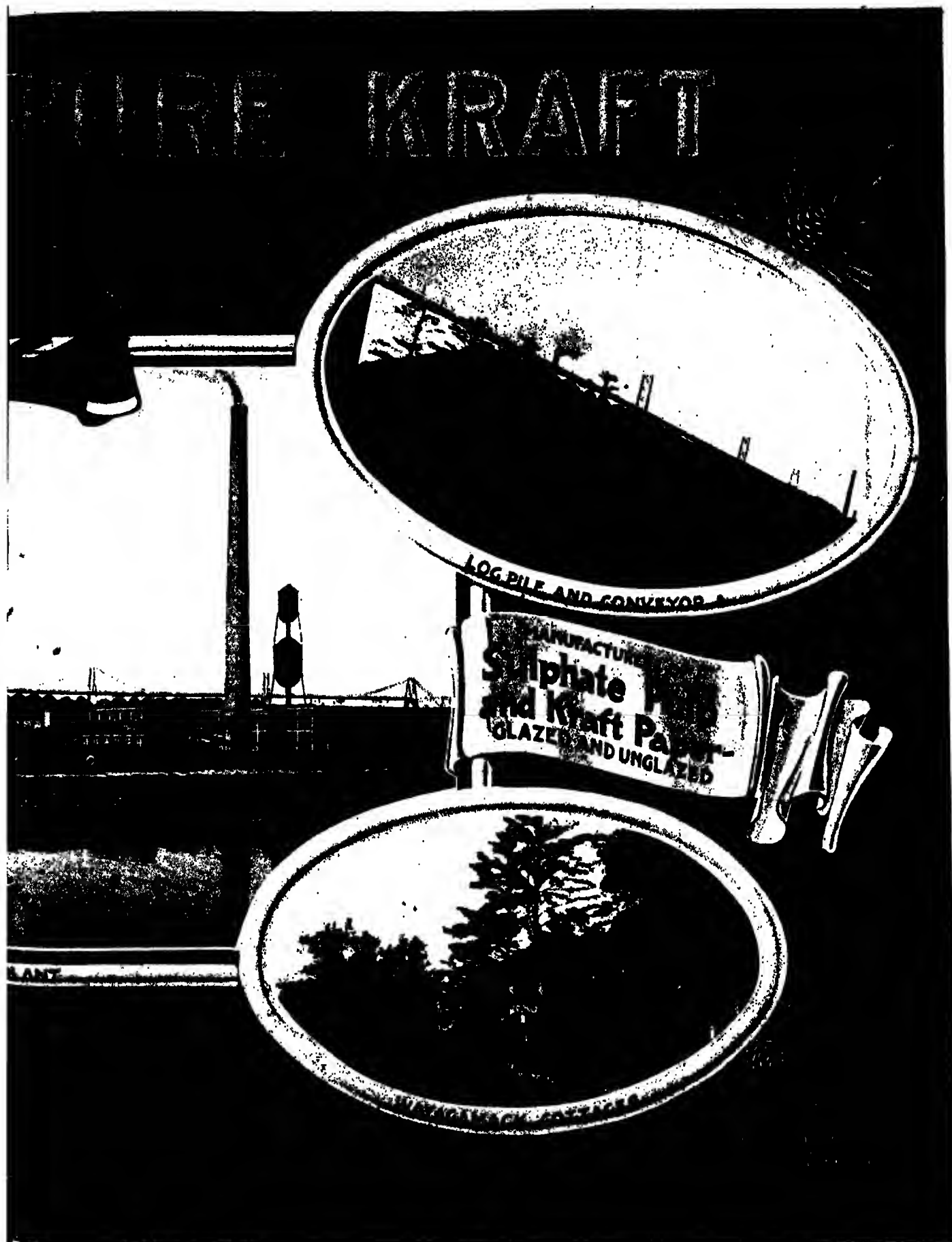
*Further complete details will be given
in the next issue of this advertisement*

WATAKAWA



**Largest
Kraft Mills in
the World**





WHAT ARE YOU PAYING FOR WATER?

LOOK INTO THIS!!

SEND ENQUIRIES FOR

BORE HOLES AND PUMPING MACHINERY

TO

WILLIAM MATTHEWS & CO., LTD.
Moston Lane, MANCHESTER

Telegrams: "BORING MANCHESTER."

Telephone: 87 CHEETHAM HILL.

MUSGRAVE'S FANS and HIGH-SPEED ENGINES.

For all purposes where
air requires to be moved.

Induced Draft
for Boilers.

Forced Draft.

Drying.

Dust Removal.

Complete Schemes Designed and
Installed.

MUSGRAVE & Co., Ltd.,

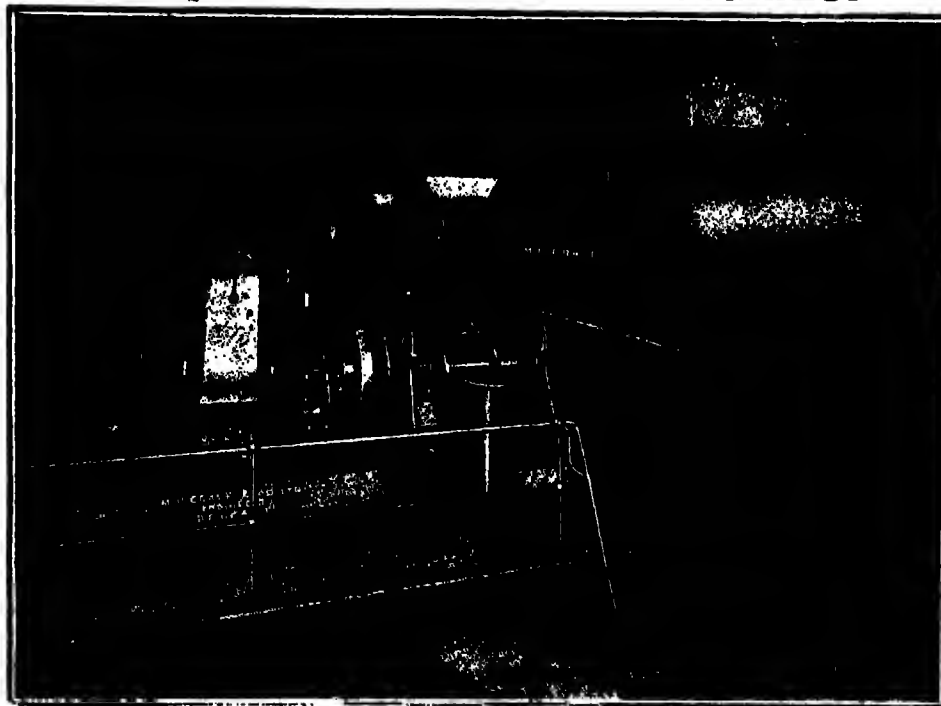
48, Deansgate, MANCHESTER

Sardinia House, Kingsway,
LONDON, W.C.1

24, Queen Street, CARDIFF.

Head Office:

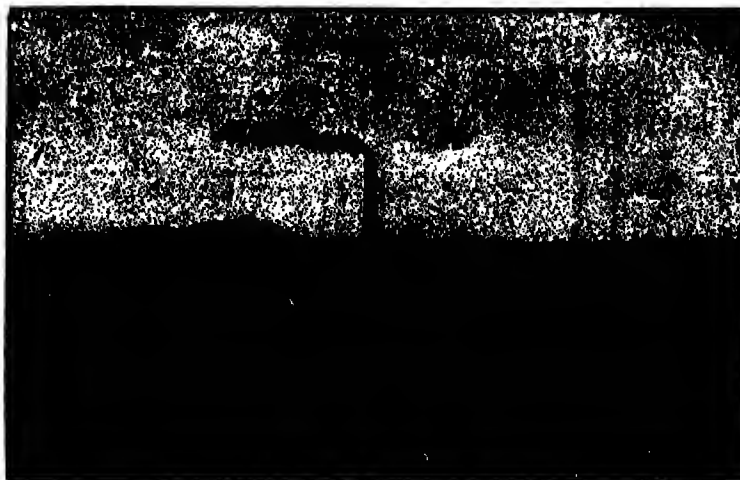
St. Ann's Ironworks, BELFAST.



Three large Induced Draft Fans recently installed in the Corporation Power Station, Bradford.

THE UNITED WIRE WORKS LTD.

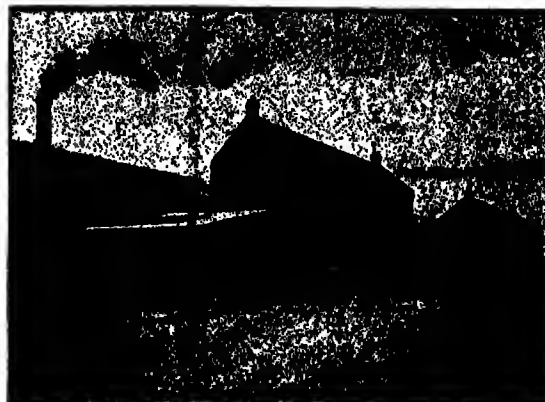
EDINBURGH, GLASGOW, & NEWCASTLE-ON-TYNE.



EDINA WORKS, EDINBURGH.



BALTIC WORKS, GLASGOW.



CARNTYNE WORKS, GLASGOW.

Paper-Machine Wires

ALL MESHES, AND UP TO 20 FEET WIDE.

CYLINDER COVERS.

WIRE CLOTH of all kinds in Brass, Copper, Bronze,
and Steel, Plain, Tinned, Galvanised or Painted.

GREENHALGH & CO.

Sulphite Sulphate — AND — Mechanical Pulp.



LONDON :

56, Cannon Street, E.C.

Wire: "INCITATUS."

'Phone: CITY 3382.

MANCHESTER :

15, Cross Street.

Wire: "INCREMENT."

'Phone 2827 CITY.

**Bronze Blue & Polishing Bronze Blue
Woodley Scarlet, and all Colours for Paper Coating**

ASHBROOKS LIMITED
(1920)

46a, Market Street, MANCHESTER.

WOOD MILL,

Works:

WOODLEY nr. STOCKPORT.

Tel: 6577 CITY, MANCHESTER.
125 DENTON, WORKS.

Grams. ACETIC, MANCHESTER.
ACETIC, WOODLEY.

ALL COMMUNICATIONS TO MANCHESTER OFFICE.

Samples Matched on Shortest Notice.

Manufacturers of all Classes of Colours and Pigments.

Power for Paper Mills



Parsons' Impulse Reaction back-pressure Steam Turbine, coupled through Parsons' reduction gearing to a 600 K.W. Bruce Peebles slow-speed Alternator and Exciter.
The Alternator supplies power for driving the mill, and the exhaust steam from the Turbine is entirely used in the process work of paper making.

Rate of reduction gearing, $\frac{1000}{750}$ R.P.M.

C.A. Parsons & Co. Ltd.
HEATON WORKS
NEWCASTLE-ON-TYNE
London Office : 56, Victoria St., S.W.1.

SATIN WHITE

BLANC FIXE

"GLEUTON"—The Perfect Sizing Agent for Paper Coating and Printing Colours
SOLUBLE STARCHES and GUMS.
CHEMICALS.

PIGMENT and LAKE COLOURS for **COATING** and Printing Purposes.
BRONZE and POLISHING BLUES. **ANTIFROTHING SIZE. SOAPS.**
LAKE and ANILINE BLACKS. **BISULPHITE of SODA.**
PREPARED ROSIN SIZE. **HYPOSULPHITE of SODA.**
SOLUBLE and COLOUR OILS. **ANTICHLOR, Etc.**
TIN PASTE for TIN FOIL COATING. **GOLD, ALUMINIUM and**
FANCY BRONZES and LIQUID BRONZES.

ESTABLISHED 1840.

RILEY'S CHEMICALS & COLOURS, LTD.

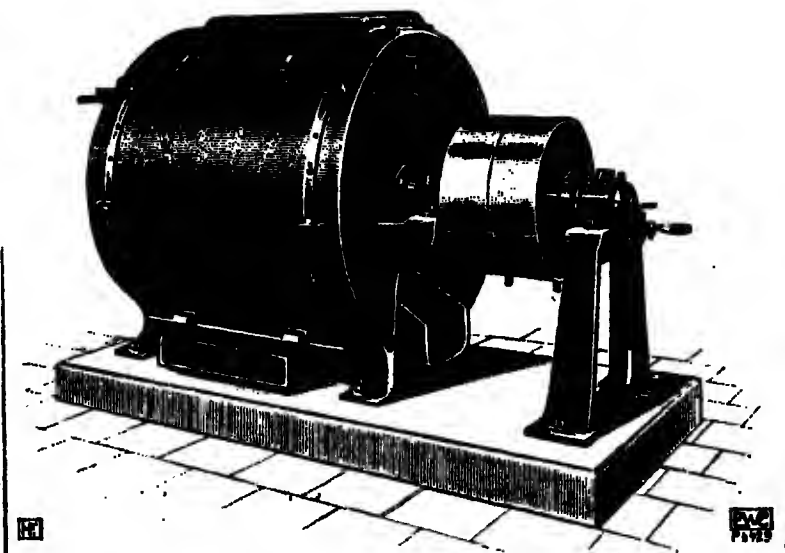
CHEMICAL & COLOUR WORKS,
 CLAYTON-LE-MOORS,
 LANCASHIRE.

Telegraphic Address—
 "PROGRESSIVE, ACCRINGTON."

Telephone—
 No. 68 GREAT HARWOOD.

ESCHER WYSS & CO. S.A.

Zurich (Switzerland).



CENTRIFUGAL SCREEN FOR WOOD GRINDING MILLS.

**COMPLETE PAPER MILL
 INSTALLATIONS.**

LONDON OFFICE:

20, Grosvenor Gardens, Westminster, S.W.1.

TELEPHONE: Victoria 9120 & 9121.

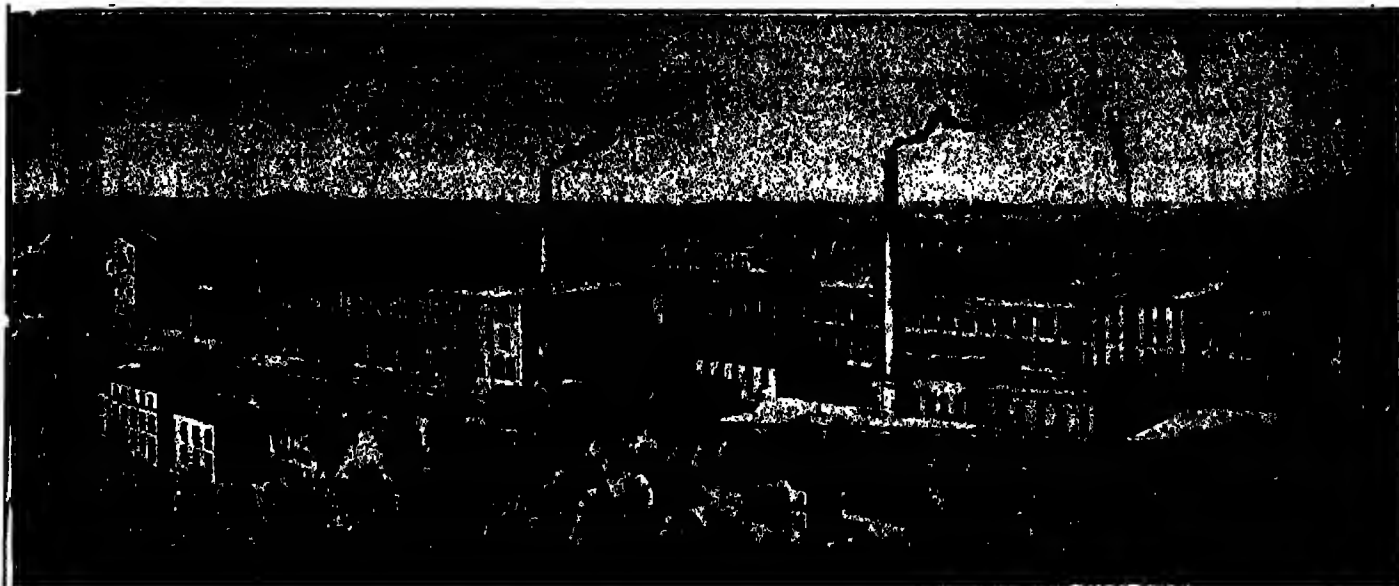
TELEGRAPHIC ADDRESS: "Esawysco, Sowest, London."

TOKYO OFFICE:

3, Uchisaiwaicho Itohome
 Kojimashi-Ku.

MONTREAL OFFICE:

212, Coristine Buildings.



VIEW OF ONE OF OUR MILLS. 'YEARLY OUTPUT' 24,000 TONS.

Write for Samples & Quotations to

R. L. LUNDGREN,

ESTABLISHED 1874.

LIMITED.

113, Queen Victoria Street, London, E.C.

and at 2, ST. ANDREW SQUARE, EDINBURGH.

Telephone No: 6058 City (Two lines).

Telegraphic Address: "Lundgren, Cent. London."

Fine Folding Enamelled and Faced Boards
REELS or SHEETS.

Fancy Papers. Leather Papers.
Wood Pulp Boards and Middles.

Specialists for the FOLDING BOX TRADE

U.K. Trade and World Exports.

JAMES SPICER & SONS, LIMITED

CHAIRMAN: THE RT. HON. SIR
ALBERT SPICER, BART.

DEPUTY CHAIRMAN:
SIR HOWARD K. SPICER, K.B.E.

J. LEONARD SPICER,
DOUGLAS SPICER.

A. DYKES SPICER.

PAPER

OF EVERY DESCRIPTION

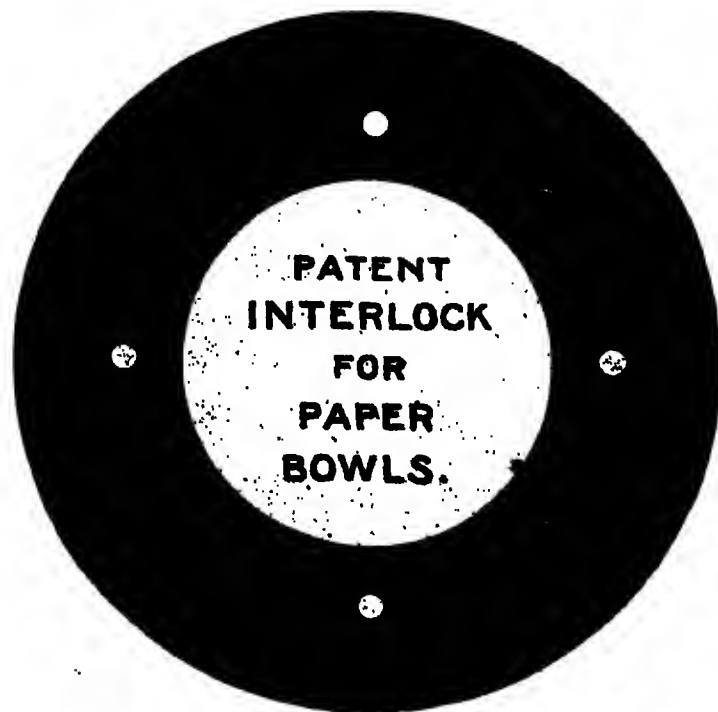
Head Offices and Warehouses:

50, UPPER THAMES STREET & ABBEY WHARF, LONDON, E.C.4. Telephone: CITY 6486

JACKSON & BROTHER Ltd.,

CALENDER BOWL MAKERS

RECENT PATENTED IMPROVEMENT IN PRESSED PAPER BOWLS



In all our Paper Bowls each sheet has an Interlock with the next sheet and so prevents any sectional slip.

It is absolutely essential for all Wide Bowls and for all narrow bowls with any weight on them. It has never failed.

Other Bowl Makers may have license on Royalty. Infringement will not be allowed.

In ordering Bowls, please specify

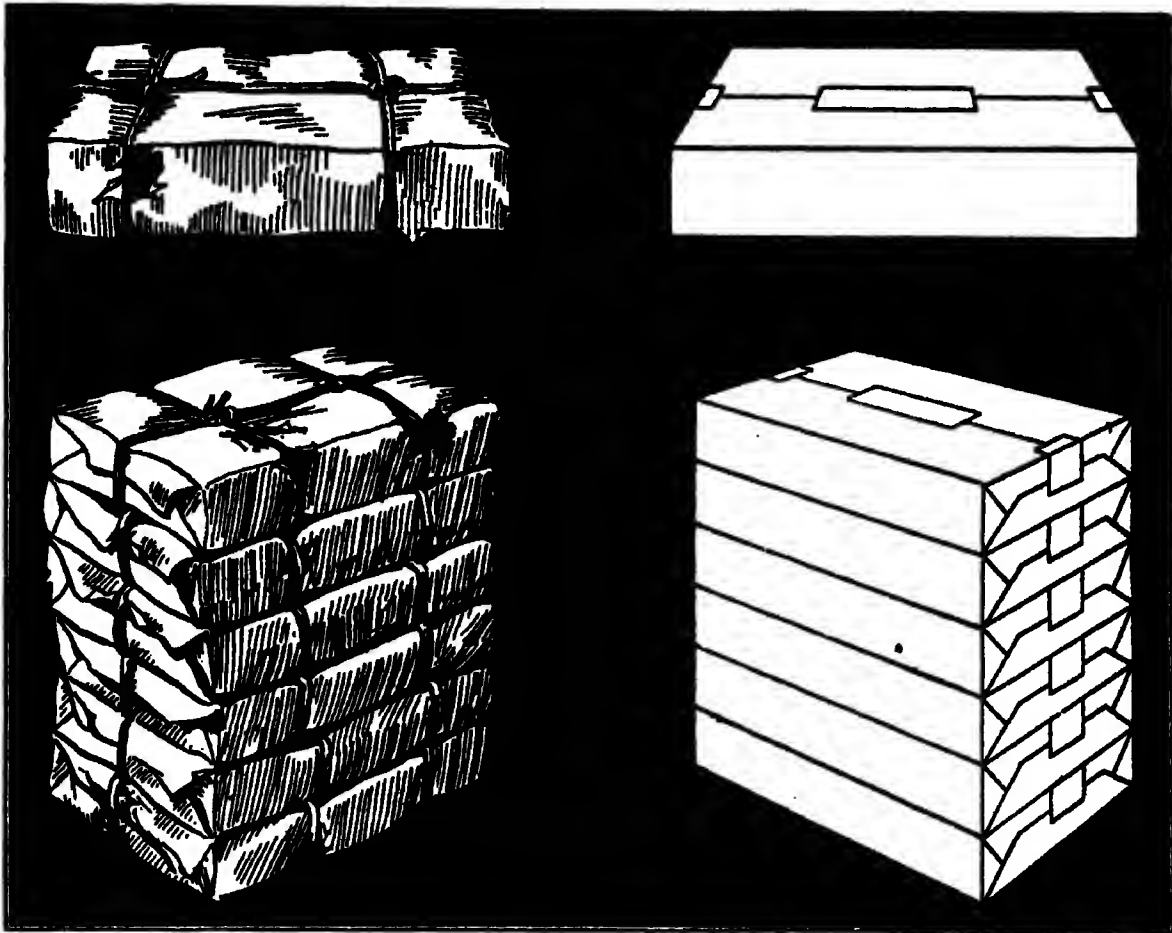
JACKSON'S PATENT INTERLOCK

Representative: A. E. Leicester, Partington, near Manchester.

WHARF FOUNDRY, BOLTON,
Telegrams: "JACKSON, BOLTON."
Telephone: No. 34 BOLTON. **LANCASHIRE.**

From Photograph of Paper from Stripped Bowl showing how the interlock acts.

"YARDS OF ROPE" "INCHES OF TAPE"



THE "OLD" WAY

THE MODERN METHOD

Let us demonstrate to you the efficiency attained by using "TIGER-TIGER" Tapes — Reams of paper can be stacked to any height without any fear of the contents becoming marked, cut or creased — a boon to Paper Makers. Full particulars on application.

TRADE MARK

REGISTERED



GU M MED PAPER

MANUFACTURING
COMPANY, LIMITED

VICTORIA MILLS,
NARBOROUGH,
NR. LEICESTER.

Telephone : 57 Narborough.
London Depot :
39, FOLEY STREET, E.C.

HIGHEST GRADE

GLUES, GELATINES,

Extensively used for

Paper Making and Paper Coating

FREE OF GREASE AND ACID.

MOST RELIABLE.

Special Gelatine for

BANK PAPERS, HAND-MADE WRITINGS, PRINTERS' ROLLERS,

ALSO B.P. AND TECHNICAL SALICYLIC ACID.

SUPPORT HOME INDUSTRY AND SEND FOR SAMPLES TO THE MANUFACTURERS

EDWARD GORTON, Ltd., PADDINGTON WORKS, **Nr. WARRINGTON.**
Branch Works: **CHESHIRE GELATINES**, Frodsham Bridge.

PENMAN & CO. LTD.

Makers of all Types of

STEAM BOILERS

*Including Esparto
Boilers & Revolving
Rag Boilers.*

Telegrams:-
"PENMAN,
GLASGOW."
Codes used:-
A.B.C. 5th Edition and
Engineering Telegraph.

**CALEDONIAN
BOILER WORKS, GLASGOW.**

London Office:- **SUFFOLK HOUSE,**
LAURENCE POUNTNEY HILL, E.C.

Reliable service

IN THE DESIGN OF M.P.
DYNAMOS & MOTORS EVERY
PRECAUTION IS TAKEN TO
ENSURE ABSOLUTE RELIABILITY
IN SERVICE

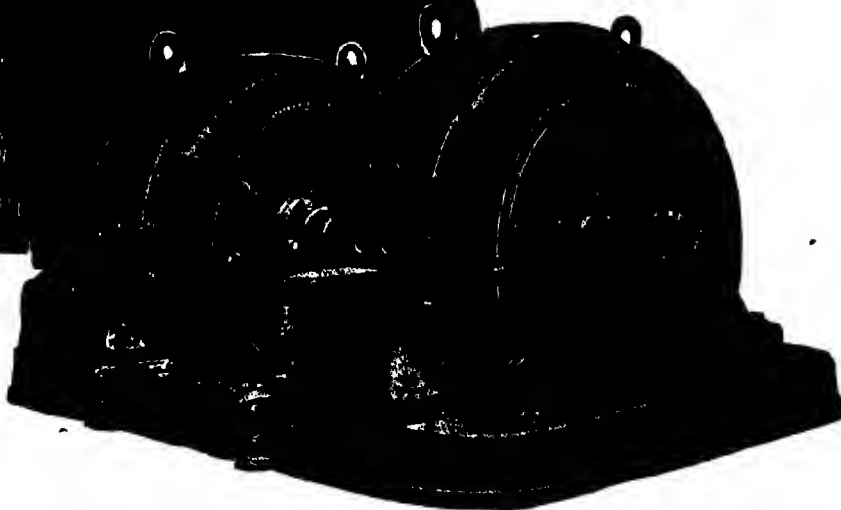
All M.P. machines, from the
smallest to the largest,
are designed & manufact-
ured with a view to ob-
taining maximum efficiency
and maximum durability.

Expert Advice free on request.

Mather & Platt, Ltd.

ELECTRIC & HYDRAULIC ENGINEERS.

Park Works, 14, Great Smith Street,
MANCHESTER - - - LONDON.



BERNER & NIELSEN

LONDON: 57, GRACECHURCH STREET, E.C.

Telephones:

London: Avenue 5435 (Two lines).
Manchester: City 1638.
Edinburgh: Central 53.
Paris: 141-12.
Brussels: 119-71.

Telegraphic Addresses:

"Berner, Grace, London."
"Berner, Manchester."
"Berner, Edinburgh."
"Nielsen, Paris."
"Bernielsen, Brussels."

PARIS:

24, Rue de Milan.

MANCHESTER:

38, Deansgate.

BRUSSELS:

28, Galerie de la Reine.

EDINBURGH:

13, George Street.

WOOD PULPS

PAPPERS-, TRÄVARU- och INDUSTRIIDSKRIFT FÖR FINLAND

(The Paper, Wood and Industrial Journal of Finland)

PUBLISHED by the Central Union of Finnish Wood-working Industries and the Central Union of Finnish Employers. Organ of the Association of Finnish Paper Engineers and the Association of Private Forest Rangers. Issued both in Swedish and in Finnish, 24 times a year.

An Excellent Advertising Medium.

Subscription rate for foreign countries :
75 Finnish marks per year. Address
V. HENRIKSGATAN 16,
HELSINGFORS.

? Would YOU like to
enlarge your Business
and find new
Customers in all
parts of the World?

If so, **ADVERTISE in**

**"The Paper-Maker
and
British Paper Trade
Journal."**

**THE LEADING AND MOST
POPULAR TRADE ORGAN.**

LONDON: 47, CANNON ST., E.C.

AXEL H. ÅGREN, GOTHENBURG, SWEDEN,

General Merchant and Forwarding Agent.

IMPORT OF IRON, STEEL AND METALS, CHEMICALS, COAL AND COKE.

Telegrams : "AGREN, GOTHENBURG."

ESTABLISHED 1867.



WHOLESALE AND EXPORT Paper Bag Manufacturers and Paper Merchants. Manufacturing Stationers and Printers.

Formerly of London. Established at Cape Town 1896.
Besides being extensive users of various PAPERS for Manufacturing
Purposes, we also merchant many grades of Papers.

Paper and Pulp Boxboard Mills are invited to send orders of any Quantity
Lines of these; also Samples of all their regular makings of various Papers.

We are also open to act as Sole Agents in South Africa for several
Continental Mills, and invite Correspondence, either to our London Agents,

Messrs. GOX, McEVEN & CO., Baltic House, 27, London-
hall St., London, E.C. Reference, National Bank of S.A.

LAUGHTON & Co., CAPE TOWN.
MECHAU STREET,

POCHINS



CHINA CLAY

H.D. POCHIN & CO. LTD.

Controlling
200,000 Tons Annually.

China Clay Mine owners
and Quarries

Established
Over 100 Years

GRUBBENS & CO., EST. 1892.

STOCKHOLM ————— AKTIEBOLAG. ————— SWEDEN

Exporters of

PAPER, BOARDS, PULP.

ENQUIRIES SOLICITED

Telegrams: GRUBBCOMPANI, STOCKHOLM.

'A.B.C. 5th & 6th.

INLANDS NYA PAPPFABRIKS A/B

LILLAEDET ————— SWEDEN

Selling Office:

STOCKHOLM ST.

MAKERS OF WOOD PULP BOARDS, MIDDLES, TICKET BOARDS,
DUPLEX AND TRIPLEX BOARDS, FOLDING BOX BOARDS.

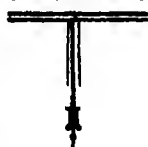
Telegrams: INLANDMILLS, STOCKHOLM.

A.B.C. 5th & 6th.

The "PROCTOR" Shovel Stoker and Patent Ram Feed Coal Elevator.

AN IDEAL COMBINATION for SAVING COAL AND LABOUR, increasing steam production, and giving a clean boiler-house. The Stoker as a result of over 40 YEARS' practical working HOLDS THE PREMIER POSITION amongst Mechanical Stokers, and gives the HIGHEST BOILER EFFICIENCY WITH THE LOWEST COST OF UPKEEP.

OVER
16,000
FURNACES
FITTED.



Messrs. OLIVE & PARTINGTON

AND

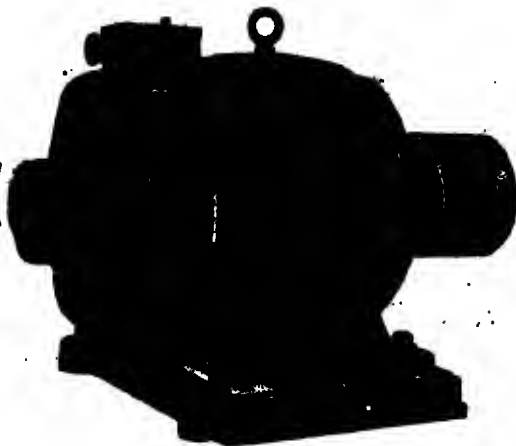
KELLNER-PARTINGTON PAPER PULP Co., Ltd.,

have adopted the "PROCTOR" Stoker and Coal Elevator at their
TURN LEE PAPER MILLS, GLOSSOP on 20 furnaces
BROUGHTON BRIDGE PAPER MILLS, MANCHESTER .. 8 ..
BARROW-IN-FURNESS PAPER PULP WORKS 16 ..

AND ALSO AT THEIR PAPER WORKS IN AUSTRIA.

BURNLEY PAPER WORKS CO., LTD. 4 ..
HENDON PAPER WORKS CO., LTD., SUNDERLAND 8 ..
NORTH WALES PAPER CO., LTD., FLINT 6 ..
YATES, DUXBURY & CO., LTD., BURY 4 ..

JAS. PROCTOR, Ltd., Hammerton Street Iron Works, **Burnley**



"Magnet," Manchester 7094 Central
"Orders," Cannon, London, 5370 City

Electromotors Limited

OPENSHAW:

Manchester, England.

London, 49 Queen Victoria Street, E.C.

Electric Driving of Paper Machinery

We offer an efficient, reliable and steady running machine in types to meet all conditions of service.

They occupy a minimum of space, are reasonable in price and, when speed variation is necessary, perfect control is available.

May we quote you?

CLARKE, CHAPMAN & CO. LTD.

—Victoria Works—

GATESHEAD

General and Electrical Engineers and Boiler Makers

Water Tube Boilers ("Woodeson" Patents)

FOR ALL DUTIES

Pumps ("Woodeson" Patents)

IN ALL SIZES AND FOR ALL PURPOSES

Prices, Particulars and Catalogues on application

Telephones: 1070-1073 CENTRAL NEWCASTLE.
137 CITY

Telegrams
"CYCLOPS, GATESHEAD."
"CYCLOPS, PEN. LONDON."

GERMAN STATE RAILWAYS & MAIL PACKET SERVICE

THE CONTINENT VIA DOVER-OSTEND



**TWO
DAILY
SERVICES**

**3 HOURS
SEA PASSAGE**

THE BEST ROUTE
To all parts of BELGIUM, COLOGNE, BERLIN, SWITZERLAND, ITALY, etc.
LONDON OFFICES: 47, CANNON STREET, LONDON, E.C.4.

DYESTUFFS for PAPER

Ask for our new pattern card with
latest specialities



Sandoz Chemical Co. L^{TD}

9, Victoria Chambers,
Little Horton Lane,
BRADFORD, YORKS.

24, Tib Lane,
Cross Street,
MANCHESTER.

(Sole Consignees in Great Britain for Sandoz Chemical Works, Basle.)

Agents:

LONDON: Skilbeck Bros., 205, Upper Thames Street, E.C.4.
GLASGOW: Charles Hogg & Co., 9, Royal Exchange Square.
LEICESTER: A. W. Brook, 36, Charles Street.

ANDREWS & CO., LIMITED, BLACKFRIARS HOUSE, NEW BRIDGE ST. LONDON, E.C.4.

And at Manchester and Glasgow.

**Sulphite, Soda, and
Mechanical**

WOOD PULP

Telegraphic Address: "ARBORARIUS," Fleet, London.
Telephone Numbers: City 5013 & 5014.

S. C. PHILLIPS & CO.'S STANDARD PUBLICATIONS

**THE PAPER MAKER and
British Paper Trade Journal**
with which is incorporated

THE WOOD PULP MAKER.

An Independent and Practical Journal for the Paper, Wood Pulp, and Allied Engineering Trades.
Published on the 1st of each month. Price 1s. 6d.; by post, 2s.
Annual Subscription, £1 1s., post free.

THE STATIONERY WORLD
**Printing and Allied Trades
and Fancy Goods Review,**
with which is incorporated

The Toy World and Games and Sports Record.
An Independent Organ specially devoted to the Stationery, Printing, Toy, Fancy Goods, and Allied Trades.
Published on the 1st of each month. Price 1s.; by post, 1s. 2d.
Annual Subscription, 10s. 6d., post free.

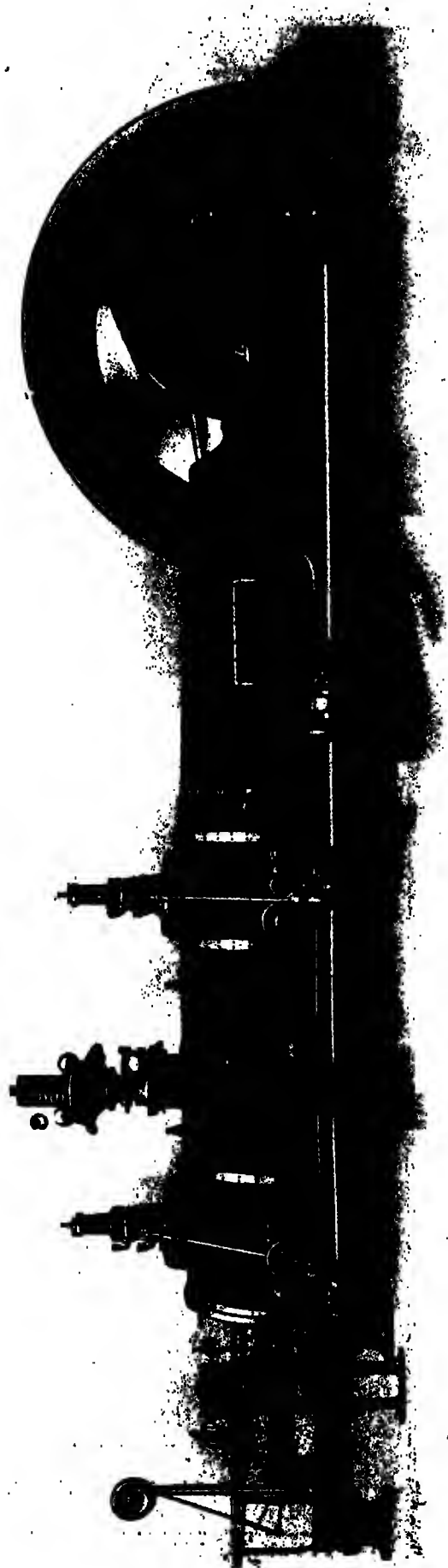
THE PAPER BOX & BAG MAKER
including
The Bookbinders' Journal.

The only Journal specially devoted to the Paper Box, Bag Making, and Allied Trades.
Published on the 19th of each month. Price 1s.; by post, 1s. 2d.
Annual Subscription, 10s. 6d., post free.

**PHILLIPS' PAPER TRADE
DIRECTORY OF THE WORLD**
A mass of information for all engaged in the paper trade. Published
Annually. Subscription, price £1 1s.

Offices: 47, Cannon St., E.C.4.

UNIFLOW ENGINES



ECONOMY—EFFICIENCY—SIMPLICITY.

MAY BE SEEN RUNNING BY APPOINTMENT.

ASHTON FROST & COY LTD.

BLACKBURN

Telegrams: "FOUNDRY," BLACKBURN.

Telephone: 4275 BLACKBURN.

ENGLAND.

W. RALSTON & CO.

LTD.

CLOUGH ROAD WORKS,
MOSTON LANE, MANCHESTER.

Telegrams: "RALSTONITE, MANCHESTER." Phone: 551 CHEETHAM HILL.

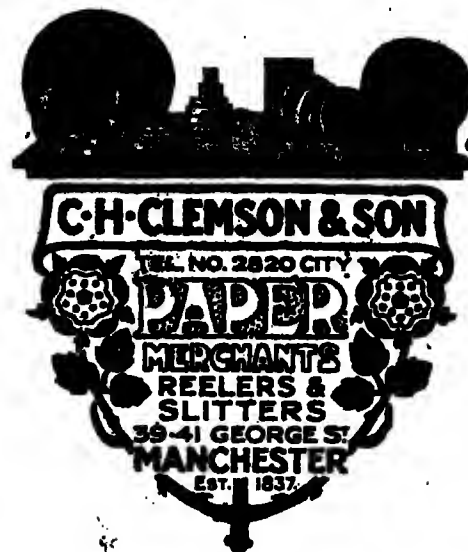
MANUFACTURERS OF

**Kraft Union Waterproof
Patent Packing,
Waxed Tissues,
Oil Papers,
Pitch Papers,
Etc. Etc.**

IN SHEETS OR ROLLS IN ALL STANDARD SIZES,
also in NARROW WIDTH REELS AND CIRCLES

SAMPLES AND PRICES ON APPLICATION

London Office:
30, BUDGE ROW, E.C.4.
(Phone: CITY 9633).



**MAKING UP, PACKING & PARCELLING PAPERS
ALSO PAPER REELERS & SLITTERS.**

**MANUFACTURERS OF ALL CLASSES OF
PAPER ROLLS FOR ALL PURPOSES.**

Telegrams—Kraftship, Manchester.
Telephone—City 2458.

WESTWELL, Ltd.

Paper Importers
and Exporters,

Lloyds Bank Bldgs.,
King Street,
Manchester.

Wrappings

**Krafts,
Sulphites,
Greaseproofs,
in Sheets or Reels.**

LONDON OFFICE:—

97, Queen Victoria Street, E.C.4:

Telegram—Papimpex, Cent, London.
Telephone—Central 8007

Telephone - - City 6115
Telegrams - - Anglonorse, Cent, London

ANGLO-NORSE PAPER AGENCIES LTD.

VULCAN HOUSE, 56 LUDGATE HILL
LONDON - - - - - E.C.4

Manager: F. A. MARSDEN

Sole Agents in the United Kingdom for
RENA KARTONFABRIK,
A/S RENA, NORWAY.
WOODPULP BOARDS FOLDING BOARDS.
DUPLEX AND TRIFLEX BOARDS.

Sole Agents (except Scotland) for
JARLSBERG PAPER MILLS,
CHRISTIANIA.

M/F & S/C PRINTING. WRITINGS.
BANKS. GLAZED AND UNGLAZED.
BONDS. IMITATION PARQUETS.

Sole Agents in England for
STANDARD PAPIRINDUSTRI,
A/S GULSKOGEN, NORWAY.
TOILET ROLLS.

From Barrel to Beater



AMBER SIZE

Mr. R. W. SINDALL, F.C.S., says:

"This is about the best prepared Size I have seen."

WE guarantee a saving in any case—
whether you are making your own Size,
OR
Whether you are making your size by any patent
apparatus, OR
Whether you are buying a prepared Size.

We send our Expert to your Mill to prove this. He will
demonstrate the advantages, and show you how it is used.

We supply sufficient AMBER SIZE for the trial FREE OF CHARGE. We
take all responsibility for the Paper Sized with AMBER SIZE by our Expert.

Sole Agents: **FOX, STOCKELL & CO.,**
61, ST. MARY AXE, LONDON, E.C.

ADOPTED BY LEADING MILLS because of the saving effected

CASEIN FOR PAPER COATING.

ALDGATE CASEIN WORKS.

Head Office:
8, LLOYDS AVENUE,
LONDON, E.C.3.

Telephones:
AVENUE 34 & 35.

Proprietors: NIEUWHOF, SURIE
AND COMPANY, LIMITED.

Works and Warehouses:
ALDGATE AVENUE,
LONDON, E.

Telegrams:
'SURICODON, CENT., LONDON.'

Keep Your Wires Clean !!

Our ROTARY CLEANING ATTACHMENT
for Paper Machine Wires is simple, efficient,
and cleans wire whilst machine is running.
Many in use. Write for particulars.

BRUSHES

for Art Tinsell and
Coated Paper Makers

COATING AND STAINING BRUSHES
CIRCULAR-FEED BRUSHES
PAPER-DAMPING BRUSHES
BRUSHING & POLISHING CYLINDERS

John Dawson & Son

Elton Brush Works, St. Philip St., LEEDS

THE Indentors' Guide

Pays Advertisers.

IF you wish to introduce your new products in

INDIA

or to increase the sale of your Old Products
Advertise in "THE INDENTORS' GUIDE,"
IT BRINGS RESULTS.

Its Special Feature is that Advertisers' Goods are
accepted in Contra, placed on the Market to
Advantage and Repeat Orders are regularly sent.

For Sample Copy and Rates address—

S. P. MASON, Bangalore, INDIA.

London Agents—STIRLING, MASON & CO., 114 Fenchurch Street, E.C.

L'Industria Della Carta:

Via Zebodia, 3, Milan.

A Practical Journal for the Manufacture
of Paper and the Graphic Arts. ::

THE ONLY TECHNICAL JOURNAL THAT IS PUBLISHED IN ITALY.

It is recommended as being greatly appreciated
and having a wide circulation :: ::

The Editor-Proprietor, Mr. ENRICO TONIOLO, Milan, devotes him-
self specially to the sale of MACHINES & MATERIALS
connected with the manufacture of Paper and the Graphic Arts

Catalogues and Orders Gladly Received.

GEO. F. HARDY,

Mem. Can. Soc. C. E., M. Am. Soc. M. E., Mem. Eng. Inst. Can.

PAPER MILL ARCHITECT

AND

HYDRAULIC ENGINEER.

REVALUATIONS. REPORTS.

WATER POWER DEVELOPMENTS.

309, Broadway, New York,
U.S.A.

HARDY S. FERGUSON,

CONSULTING ENGINEER,

200, FIFTH AVENUE, NEW YORK CITY.

MEMBER Am. SOC. M. E.

MEMBER Am. SOC. C. E.

MEMBER Eng. INST. CAN.

Paper, Pulp and Fibre Mills
including Buildings and Com-
plete Mechanical Equipment.

Water Power Development.

Dams, Storage Reservoirs and
Other Hydraulic Structures.

EXAMINATIONS

REPORTS

ESTIMATES OF COST

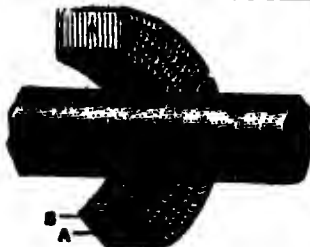
DESIGNS

SPECIFICATIONS

VALUATIONS

PATENT FLEXIBLE METALLIC PACKING

PUMP AND HYDRAULIC PACKINGS JOINTINGS



Write for Samples:

S. REDFERN & Co.
2, Swan Lane, New Brown Street,
MANCHESTER.

Tel. Address: "Metalline"
Tel. No.: 2134 City.

BOLETIN DE LA INDUSTRIA Y COMERCIO DEL PAPEL

A fortnightly Spanish Review of Paper-making and Trade generally.

The best Spanish Paper Review (prodigiously illustrated), is published
on the 1st and 13th of every month, in 194 by 264 mm. size, with
more than 60 pages of letterpress on superfine glazed art paper.

Subscription price 15 fr. per year.

Terms for Advertising can be obtained upon application to our
representatives for the United Kingdom, viz.:-

S. C. PHILLIPS & Co.,

Publishers of "THE PAPER-MAKER,"
47 CANNON STREET, LONDON, E.C.

This Micrometer, mounted on a table, is so arranged that the plunger is raised by foot pressure on the pedal which rests on the floor. It is intended to fasten about the centre, or a little back of the centre, of the table. The anvil comes up through the table top, and is flush with the top of the table. The table, then supporting the entire surface of the sheet of board, and being perfectly level with the top of the anvil permits of handling large sheets, heavy sheets, and securing accurate registration of the caliper thickness.

It is very easily adjusted, and if it is given care it cannot get out of order. They are adjusted to give accurate registration when they leave the machine shop.

Exact size
8 x 9 inches—Outside Measure
Size of Dial 6 inches Diameter



Patented.

Automatic Micrometer Calipers

MADE IN U. S. A.

This Instrument is spaced to give readings in thousandths of an inch. When requested, we will change the dial, giving you one registering millimetres and hundredths.

Each Instrument is Correctly Adjusted before being shipped.

WRITE FOR CIRCULARS

E. J. CADY & CO.

326 West Madison Street

CHICAGO, ILL.

Galvanised Iron Tanks for Paper Pulp.

Made from the best mild steel plates dipped in pure virgin spelter, galvanised iron tanks prevent the formation of iron mould. They are strong, clean and dependable, and in every way ideal for all paper pulp purposes.

We manufacture galvanised iron tanks from 20 to 3,000 gallons capacity and up to $\frac{1}{4}$ " thick, rectangular or circular.

We also manufacture to your own specifications, whilst our business policy—to be moderate in price, to give good delivery and to use only the highest quality materials, assures absolute satisfaction.

Write to-day for price list, and state your requirements. We can satisfy you.



W. P. Butterfield, Ltd.

Yorks. SHIPLEY Eng.

'Grams: "Tanks, Shipley." 'Phone: 35 & 535 Shipley.

M.H.

SITES for WORKS, FACTORIES WAREHOUSES, etc. ADJOINING THE G.W.R.

Numerous areas of land, admirably situated.

Good Water Supplies. Proximity to Good Markets.

This Railway is connected with some of the largest Steam, Anthracite, and House Coal Fields, many of the Principal Ports, and important and extensive Iron and Steel Producing Centres.

Information as to suitable sites, siding facilities, conveyance rates, etc., will be readily afforded on application to Mr. E. LOWTHER, Chief Goods Manager, Paddington Station, London, W.2, to whom Owners and Agents of Land and Premises for Sale or to be Let are invited to send particulars for insertion in the Register which is kept to enable information to be furnished to parties requiring sites, etc.

G.W.R. Paddington Station, W.2.
July, 1947.

FELIX J. C. POLE, General Manager.

BOWLS

CALENDER

Specialists :

DAVID BENTLEY Ltd.
Greengate, Salford, Manchester

Telegrams : "Bowl Manchester."

Established 1784

Telephone : 439 Central.

Established by Henry Atherton, 1784.

Incorporated 1897.

We are makers of Calender Bowls ONLY.

We are not Machinists or General Engineers.

We have specialised for over One Hundred Years.

*We are the original inventors and makers of
Compressed Cotton, Paper, Woollen Paper,
Asbestos Paper, etc., Bowls.*

*We are continually supplying Bowls to all parts
of the World where Bowls are used.*

*We make Bowls for every class of Calendering,
Embossing, etc.*

Continued by David Bentley, 1801.

THE "BRIDGE" PAPER MILLS, LTD.,

ESTABLISHED ONE CENTURY. STAFFORDSHIRE.

MANUFACTURERS OF MILL & LEATHER BOARDS

SPECIALITY—LEATHER SUBSTITUTE.

The Mill is shortly to be enlarged for the production of STRAW BOARD, TISSUE PAPER, Etc.

London Office: **Wardrobe Chambers, 146a, Queen Victoria St., London E.C.4**

DANDY

PAPER
MACHINE
WIRES
PLAIN &
TWISTED
PRESSE PATE
WIRES
BACKING
SIEVING &
WASHER
WIRES
DANDY
ROLLS Etc

PAPER MACHINE WIRES.

F & G.W. STONIER & CO. LTD.

(Lancashire Wire Works)

Wire Manuf. and Weavers

**HARRIS ST. STRANGWAYS
MANCHESTER**

ROLLS.

TELEGRAMS
INTERWEAVE
TELEPHONE
CENTRAL
5079
CODES ABC.
5 EDITION

SOCIETY OF CHEMICAL INDUSTRY,

BASLE . . . SWITZERLAND.

**Largest Manufacturers
of Aniline Colours
outside Germany.**

EMPLOYING OVER 3,000 PEOPLE.

SPECIALITIES FOR PAPER.

SEND YOUR SAMPLES OF COLOUR FOR MATCHING
TO THEIR AGENTS:

THE
**CLAYTON ANILINE
CO., LTD.,**
CLAYTON . . . MANCHESTER.

DON'T WAIT

Now is the time to do **BUSINESS WITH SCANDINAVIA**, where trade, especially in Paper and Wood-pulp, has received an enormous impetus on account of the Peace, and where everyone is on the lookout for opportunities.

An advertisement in a good Scandinavian Paper and Wood-pulp Journal would help you. **IF YOU ARE AN AGENT**, an advertisement would make your name more widely known throughout the trade in Scandinavia, or, **IF YOU ARE A MANUFACTURER OF MACHINERY OR PAPER-MAKERS' SUPPLIES** it would help you to get a good share of the Scandinavian Trade.

THE "TIDSSKRIFT FOR PAPIRINDUSTRI"

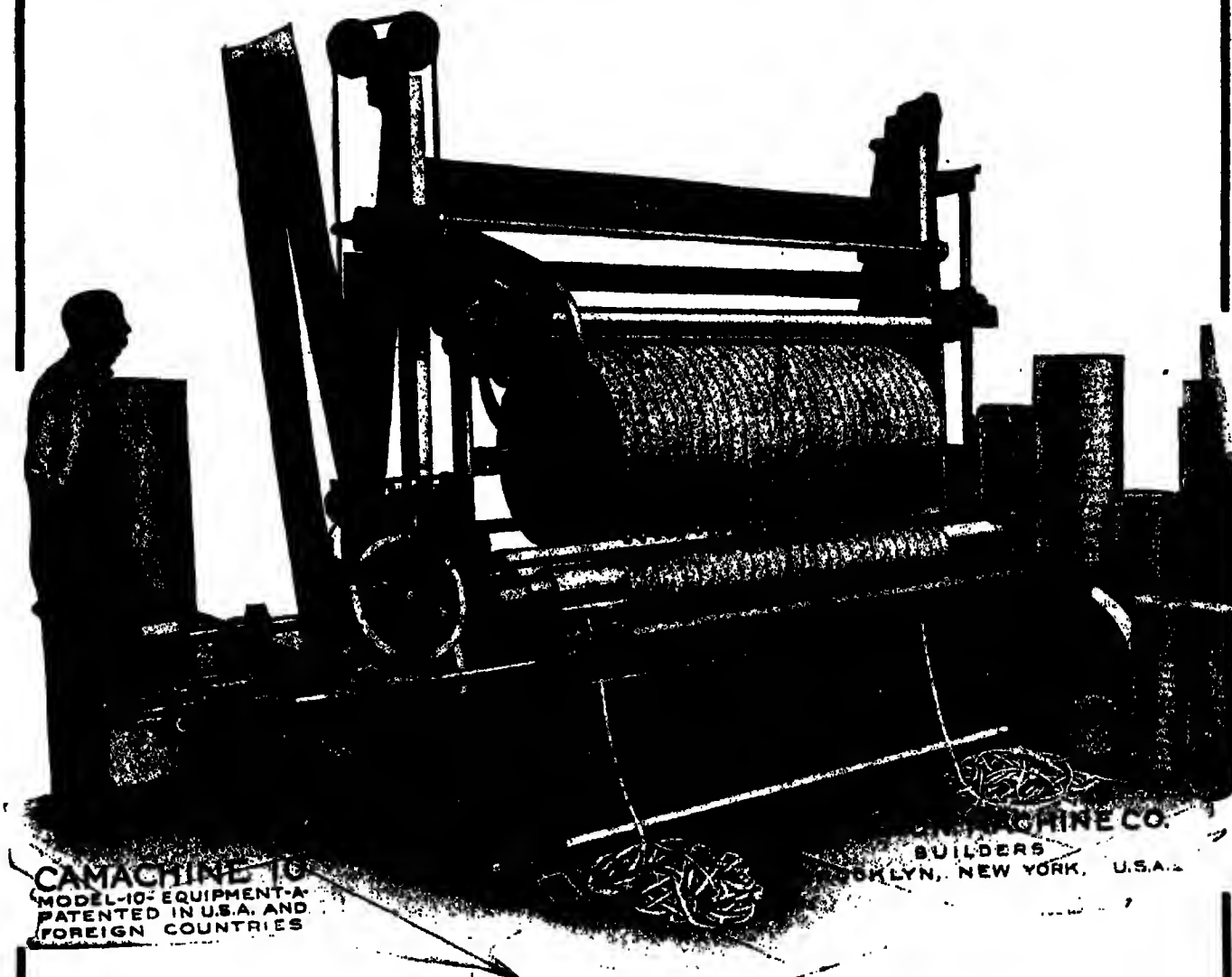
is published in Christiania, Norway, and circulated throughout the trade in Norway, Sweden, Denmark, and Finland, and is also subscribed to by a number of English and American Firms.

WRITE FOR ADVERTISING RATES AND A SPECIMEN COPY.

Information regarding the Scandinavian Markets furnished gratis

LONDON OFFICE:
GUMÆLIUS LIMITED,
SCANDINAVIAN ADVERTISING SPECIALISTS,
11, Arundel Street, Strand, London, W.O.2.

A NEW SLITTING AND REWINDING MACHINE



CAMACHINE UNIVERSAL TYPE 10, MODEL 10A.

An Ideal Slitting and Rewinding Machine for PAPER DEALERS, PAPER MANUFACTURERS, and in the finishing room of PAPER MILLS.

This new Machine sums up all the labour saving and waste saving features of previous models, and adds valuable new features for quick, accurate production. Covers a wide range of work from "Midget Rolls" to "Jumbo Rolls."

CAMERON MACHINE COMPANY,
61, POPLAR STREET, BROOKLYN, N.Y., U.S.A.

London Office:
5, CHANCERY LANE,
LONDON, W.C.2.

Representatives in Italy:
SUMNER, HARKER & CO.,
14, Via Lazzaretto, Milan, Italy.

Representatives in
NORWAY & SWEDEN,
LORENTZEN & WETTRE,
CHRISTIANIA, NORWAY.



Board Lining Machine

with Automatic Rotary Cutter
for paper in endless reels.

Saves space, time, wages,
boards, paste, drying, labor
— and troubles —

HOLL. KLEEFMACHINEFABRIEK
ROTTERDAM St. Mariastraat 4

"THE CHINA CLAY TRADE REVIEW."

*The Official Organ of the
China Clay Industry.*

Published the 15th of each month.

PRICE 6d.

Post Free British Isles, 7/6.
Colonies and Abroad, 10/6.

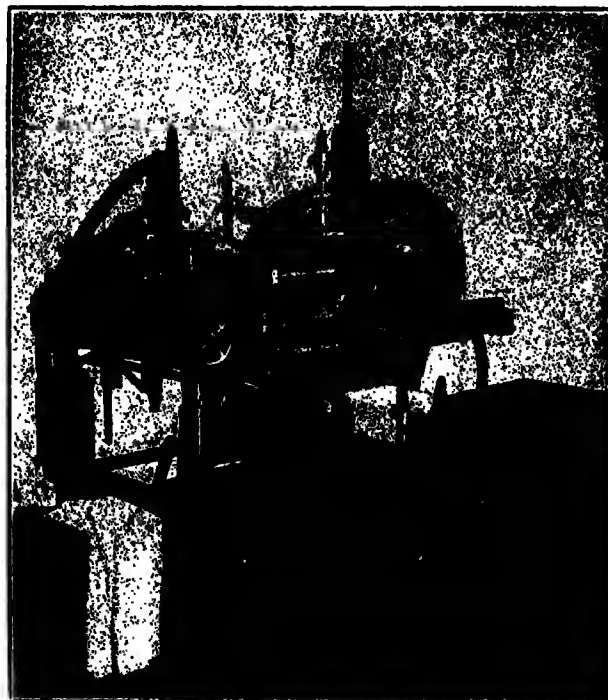
The only monthly journal devoted to the interests of all engaged in the CHINA CLAY, AND STONE, BALL CLAY, FELSPAR AND ALLIED INDUSTRIES, and circulating amongst Potters Paper-makers, Chemical Manufacturers, Manufacturing Chemists, Bleachers, and other users.

PUBLISHING OFFICES:

9-10, SOUTHAMPTON BUILDINGS, HOLBORN, W.C.2.

THE CARMIC ENVELOPE MAKING MACHINERY.

BRITISH MADE THROUGHOUT.



ADVANTAGES OF THE CARMIC:

1. Any size Envelope or Bag can be folded upon the "Carmic," within the specified range of each Machine which is practically unlimited.
2. The change from one size to another being carried out in about one hour. No additional boxes needed. Same box used for all sizes.
3. All classes of paper can be folded.
4. Out-put of Machines from 28,000 to 32,000 per day.
5. Does not require special skill to operate.
6. Very little motive power is needed to drive Machine.
7. Best material and workmanship throughout.
8. Space required for machine and operator, 7 ft. x 5 ft.
9. Machines supplied ready for working.

THE "CARMIC" ADJUSTABLE ENVELOPE OR BAG MACHINE.
THE "CARM" POWER GUMMING MACHINE FOR BLANKS.
THE "IMPRESS" ENVELOPE FOLDING AND DIE STAMPING MACHINE.
THE HAND GUMMING MACHINE FOR ENVELOPES OR BAGS.

Prices and Particulars to be obtained from

PETER CARMICHAEL & Co.
LIMITED,

303, SOUTHAMPTON STREET,
CAMBERWELL, LONDON, S.E.5.

Telephone:
ROP 479.

Telegrams:
"Encarniloom, Camb,
London."

STOTT LINE BALTIC STEAMERS

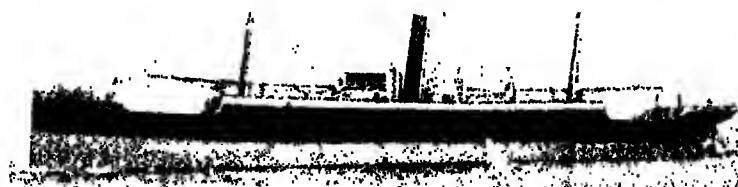
Regular Line of Steamers
to Preston, Manchester,
and Liverpool,
from Baltic Ports,
and *vice versa*.



Through Rates Quoted
to and from
all Baltic Ports,
also
Inland Towns.

SPECIALISTS in dealing with the TRANSPORT and forwarding of

WOOD PULP



Stott Lin "Duna."

Careful supervision on Discharge from Steamer, and Loading to Wagons or Warehouse. Customs entries passed. Sampling attended to. Deliveries advised.

. H. STOTT & CO., Ltd.,

Steamship Owners and Brokers,
Insurance and
Forwarding Agents.

7 Brasenose Street, Manchester; 17 Fenwick Street, Liverpool;

Also at PRESTON.

Telegraphic "Stottiner, Manchester."
Addresses "Stott, Liverpool."

Telephone No. 2384
Telephone No. 8007 Central.

Goods of all kinds forwarded and
delivered at Lowest Rates.

MAGENTA

for Paper Makers.

HICKSON & PARTNERS, Ltd.,

Manufacturers

Telegrams: **38, Well Street, Bradford.**
 Rosalind, Bradford.

THE PAPER BOX AND BAG MAKER AND BOOKBINDERS' JOURNAL

The Up-to-Date Independent Journal.

Full of useful information and Trade News.

By Post 10/6 Prepaid.

THOR THORESEN

LINE OF REGULAR STEAMERS
 FROM EAST AND WEST NORWEGIAN PORTS TO WEST
 COAST U.K. AND TO THE BALTIC AND VICE VERSA.

SCANDINAVIAN

**EAST-AFRICA LINE TO RED
 SEA, EAST AFRICA, MADAGASCAR
 AND VICE VERSA. :: :: ::**

THOR THORESEN Jr. (U.K.) LD.

SHIPBROKERS, FORWARDING, INSURANCE AND COLLIERY AGENTS,

Telegrams: "Thorline, Manchester." **7, Brazennose Street, MANCHESTER.** **Telephones: 8067 and 8068 City.**

And at LONDON, CHRISTIANIA and PARIS

EDWARD KEMPSTER & SONS, Ltd.,

Telegrams: "Kempster, Bury." **GEORGE ST., BURY, LANCS.** **Telephone: 98 Bury.**

ENGINEERS and BRASSFOUNDERS.

Specialities:

PHOSPHOR BRONZE AND GUNMETAL CASTINGS

"BON ACCORD" CENTRIFUGAL PUMPS

Any Capacity and Head, and for all purposes.

Driven by **STEAM ENGINES** (open and enclosed), **ELECTRIC MOTORS**, **OIL ENGINES**, **BELTS**, &c.
HIGH-SPEED ENGINES (open and enclosed types)
FOR DRIVING DYNAMOS, FANS, &c.

The "BON ACCORD" PUMP is specially adapted for Pumping Paper Pulp, Thick Viscous Liquids, &c.

DRYSDALE & Co., Ltd., YOKER, GLASGOW.

Telegrams: "Bonaccord, Glasgow."

Write for Catalogue.



CHINA CLAY (KAOLIN)

**For Paper-Making, Coating
and Chemical Manufacture.**

THE WEST CARCLAZE CHINA CLAY CO., LTD.,

Telegrams—
"PORCELAIN,
ST. AUSTELL."

**China Clay Mine Proprietors,
ST. AUSTELL, ENGLAND.**

**SCANDINAVIAN-AMERICAN
TRADING COMPANY**

50 EAST 42ND STREET, NEW YORK
17 BERIDAREBANGATAN, :: STOCKHOLM

**WOOD
PULP
OF ALL KINDS
—AND—
PAPER MILL
SUPPLIES**

Cables: Scandamco, New York and Stockholm

GUTHRIE & CO.
CHEMICAL ENGINEERS
ACCRINGTON,

invite correspondence from firms re

ELECTRICAL HEATING
or Evaporating of Liquid Chemicals

by their highly efficient patent apparatus which gives any required yield and speed of heating with complete temperature control.

Most convenient in application; often very economical in comparative cost.

No wire resistances and will not choke.

Suitable for large scale work, and for corrosive liquids or liquids containing precipitates or suspended matter.

Inexpensive first cost of installation.
Obviates jacketed pans and oils.
Radiation losses eliminated.

ELECTRICAL DRYING OF SOLID CHEMICALS

No wire resistances. Heat liberated from surface of contact.

Suitable for most drying problems.

Absolute temperature control.

CERATHERM ANTI-CORROSIVE PUMPS

—An entirely successful Chemical Pump.

CERATHERM LINED ANTI CORROSIVE VATS

—Inert to the most highly corrosive chemicals.

BENTLEY

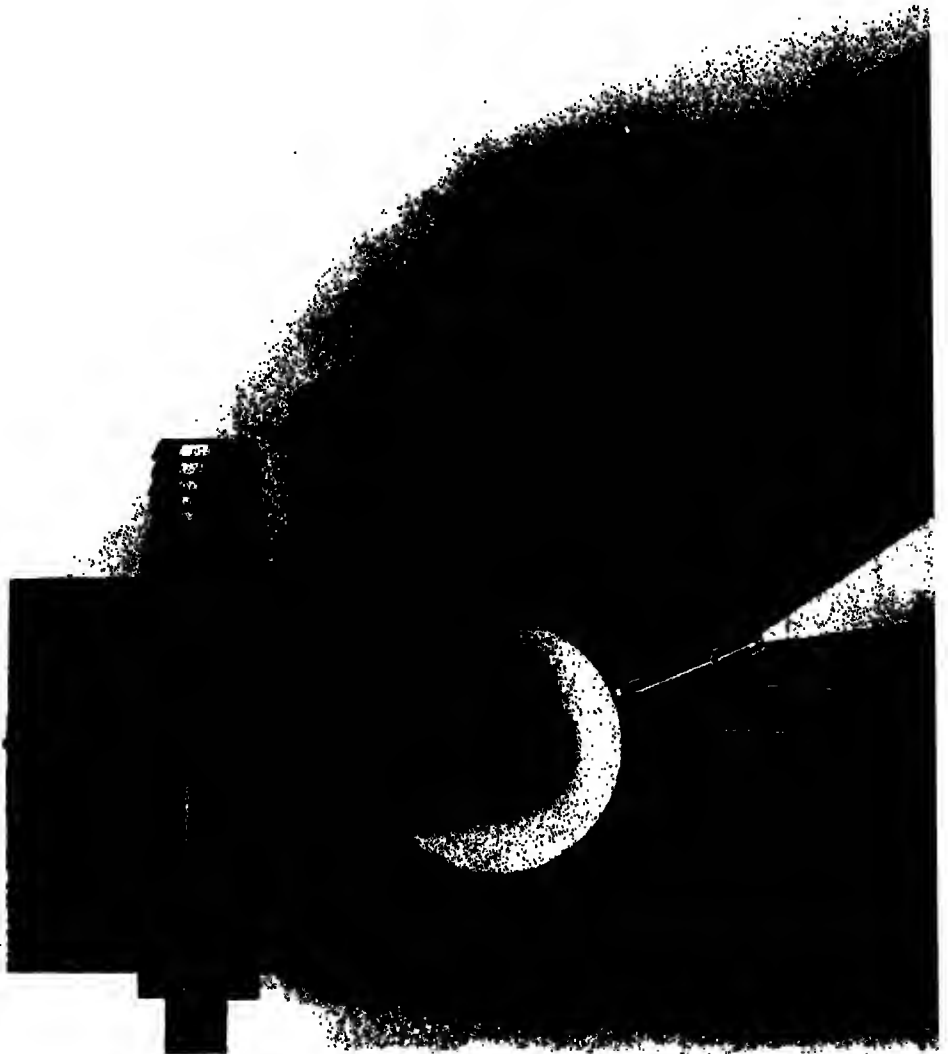
Telegraphic Address: . . . "Calender, Bury."
Telephone No. 340 Bury.
Codes used: A I. A B C (5th), and Western Union.

BU

The Barnes Patent Spray Damper



- The most
Perfect and
Simple
Damper at
present
made.



JACKSON

Ry **Ltd.**
Near MANCHESTER.

**Modern
High-Speed
News
Paper-making
Machines.**

John Wild & Sons, Ltd.,

SPECIALITIES:

SUPER CALENDERED PAPERS
DRAWING PAPERS - - -
FERRO-PRUSSIAN CARTRIDGE
Glazed and Unglazed IMITATION
PARCHMENT - - - - -
ENVELOPE PAPERS - - - -
BEST STAINERS - - - - -
MANILLA CARTRIDGES - - -
Glazed White WAXING PAPERS
BUTTER PAPERS - - - - -
TEA PAPERS, MIDDLES - - -
TAG OR LABEL PAPERS - - -
CHROMO AND ENAMELLING
PAPERS
VARNISHING PAPERS - - - -
PRINTINGS—White and Toned -
M.G. BISCUIT CAPS - - - -
BOOK COVERS - - - - -
BEST GLAZED CASINGS - - -

PAPER MAKERS,

*Broad Dumers
Paper Works,*

RADCLIFFE,

Near MANCHESTER.

Telegrams: "WILD, RADCLIFFE."
Telephone: 40, WHITEFIELD.

London Agent: **Mr. HENRY BURGESS,**
15, Dowgate Hill, E.C.
MILL No 888.

WIFSTAVARFS AKTIEBOLAG,

Telegrams:
"WIFSTA
WIFSTAVARF."

WIFSTAVARF (Sundsvall District) Sweden.

FOUNDED 1799

SALES OFFICES: **Kungsträdgårdsgatan, 10, STOCKHOLM.**

Telegrams: "WIFSTA," Stockholm.

Manufacturers & Exporters of Chemical Wood Pulp.

STRONG SULPHITE
EASY BLEACHING Do.
EASY BLEACHING SODA
and STRONG SODA

W W K & W W
W W L
W W L
W W K

Brands

Annual Production
about 55,000 tons

Brands

" 22,000 "

AGENTS:

UNITED KINGDOM: PALMER, FLYGT & Co., 110, Cannon Street,
London, E.C.; and

ROD ERIKSON & Co., Ltd., 73a, Queen Victoria St., London E.C.

FRANCE, SPAIN & PORTUGAL: LORENTZEN & GUTHEIT, 12, Rue
Boissy D'Anglas, Paris.

HOLLAND: OTTO J. FABER, Prins Hendrikkade, 20-21, Amsterdam.

BELGIUM: GROSS & IRENS, 20, Courte Rue des Claires, Anvers.

The Watford Engineering Works,

Limited.

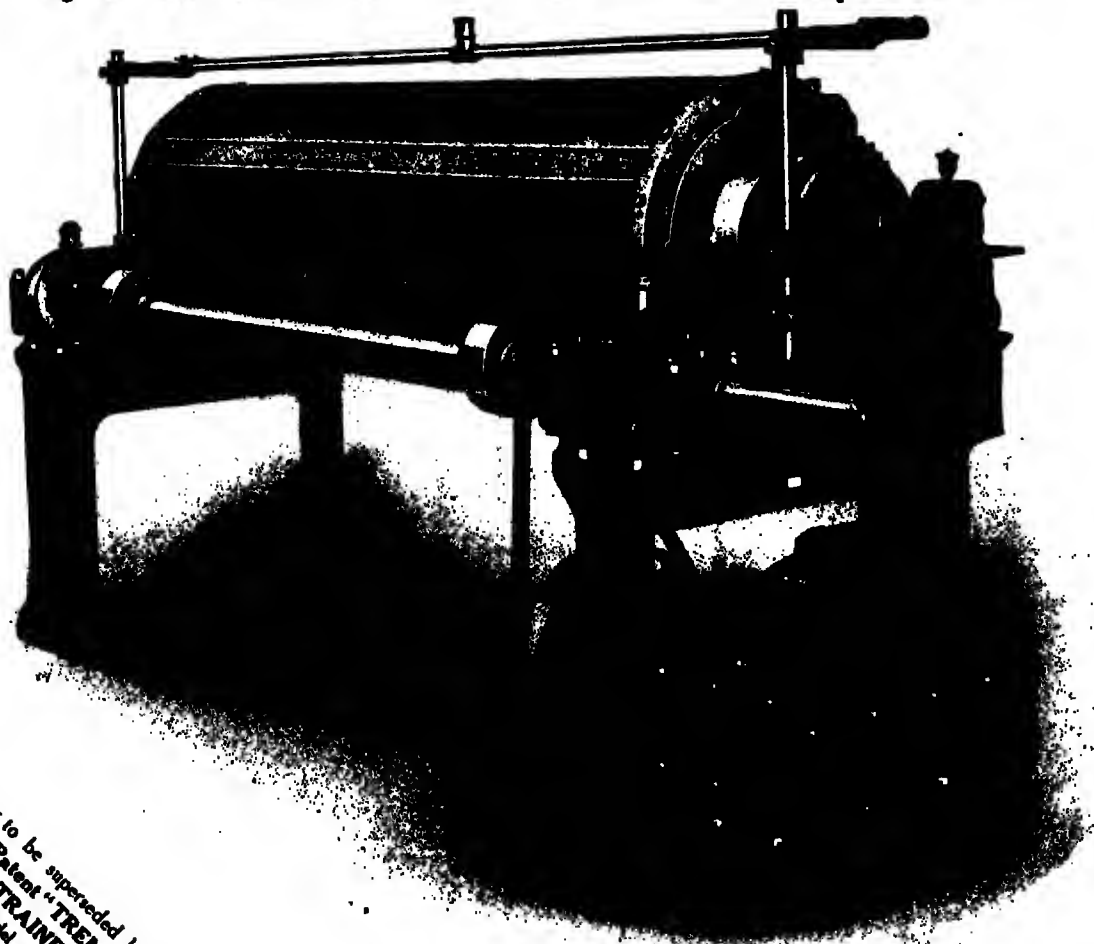
Established 1827 by Mr. GEO. TIDCOMBE, Senr.,

PAPER MILL ENGINEERS & MILLWRIGHTS, LOWER HIGH STREET, WATFORD.

Telegrams: "Mechanical Watford."

Code—5th Edition A B C.

Telephone: 35 Watford.



Shortly to be superseded by our
New Patent "TREMOR"
STRAINER
(Wandel type).

Patent Silent "Wandel" Strainers

EITHER INWARD OR OUTER FLOW.

PULPERS, STRAINER PLATES, DRUMS AND
CYLINDER MOULDS OF EVERY DESCRIPTION.

SPRAY DAMPERS, SLITTERS, FROTH KILLERS,
STUFF CHEST MIXERS, PULP SHREDDERS, Etc.

The Continental Trading Co., Ltd., Stockholm

BRANCHES.—LONDON, PARIS, NEW YORK, PETROGRAD, MOSCOW, KIEW, COPENHAGEN, CHRISTIANIA, HELSINGFORS, OMSK, VLADIVOSTOK, KOBE, BARCELONA, GENOVA, CAIRO, ALEXANDRIA, SINGAPORE, SOERABAJA, SYDNEY, BUENOS AYRES, MONTEVIDEO, RIO DE JANEIRO, PORTO ALEGRE, SAO PAULO, VALPARAISO, COQUIMBO, GUAYAQUIL, SANTOS.

EXPORT: SWEDISH PAPER, BOARD, PULP.

Edward Rushton, Son & Kenyon,

Auctioneers, Valuers and Fire Loss Assessors,

13, NORFOLK STREET, MANCHESTER.

(Established 1855.)

Telephone Nos.: 775 City and 5623 City.

Telegrams: "Rushtons, Auctioneers, Manchester."

Undertake VALUATIONS FOR INSURANCE, and other purposes.

FIRE LOSS SETTLEMENTS

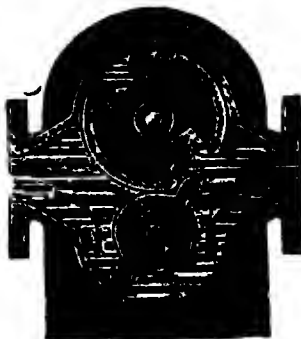
(On behalf of Assured only).

SALES BY AUCTION

of Mills, Works, Plant and Machinery, and all work in connection therewith.

Average Yearly Valuations exceed £10,000,000.

Full Staff of Trained Expert Assistants employed.



THE 'Drum' Pump

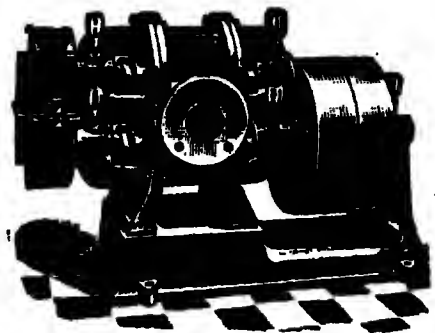
(JOHNSON'S PATENTS).

Positive Action. High Efficiency.
No Valves.

Fitted to the Suction Boxes of Paper Machines in many of the leading Mills.

Telegrams—"Drum, Bradford."

Telephone—No. 2255.



Write for Catalogue
No. 81 to—

DRUM ENGINEERING CO., 28, HUMBOLDT STREET, BRADFORD.

VICKERYS (1920) Ltd.

PATENT

"NON-STOP" FELT CLEANER,
LAYING MACHINE (OR LAYBOY),
SELF-ADJUSTING NON-SCORING DOCTOR,
AUTOMATIC LOADING TRANSPORTER,
CONTINUOUS BEATER EXTRACTOR.

49, BEDFORD SQUARE, W.C.1.

Telephone Nos.—85 ECCLES;
Telegrams—"BLUE," PATRICROFT.

ESTABLISHED 1840.

Hazlewood and Sons, Ltd.,

NELSON WORKS, PATRICROFT, near Manchester.

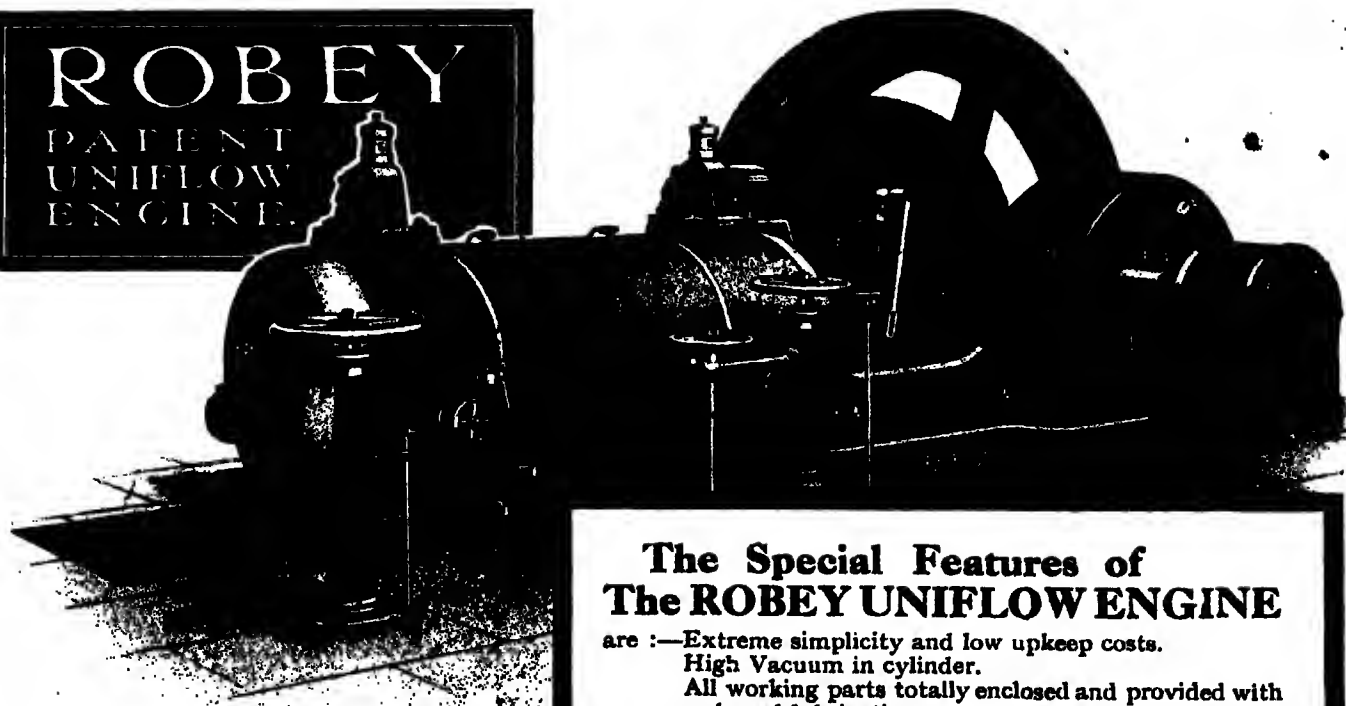
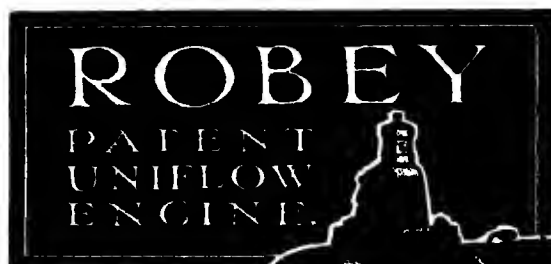
Enquiries Solicited for Home and Export for

ANILINE COLOURS

Prussian Blues (Paste and Powder)
Indigo Blues
Refined Indigo
Indigo Substitute
Indigo Extract
Ultramarines
Rosin

Smalts Blue
Carbon Black
Bark Extract
Logwood Extract
Hematine Paste and Crystals
Turkey Red Oil
Soaps

ROSIN SIZE and all Chemicals for the
Paper and Allied Trades.



The Special Features of The ROBEY UNIFLOW ENGINE

are :—Extreme simplicity and low upkeep costs.
High Vacuum in cylinder.
All working parts totally enclosed and provided with
forced lubrication.

APPLY FOR CATALOGUE P.M. 246

ROBEY & CO. GLOBE WORKS LINCOLN

Approach

G. E. Davies & Company,

Telegrams: "CHARGEMENT, MANCHESTER."

5, CROSS STREET, MANCHESTER.

Telephone No.: 3971 CENT. MANCHESTER.

for PAPER AND PAPERMAKING MATERIALS.

Reg. "NATSTAN." Trade Mark.

SATISFACTION GUARANTEED.**K. H. KABBUR & CO.,** 25, Bragennose Street, MANCHESTER.

Telephone:—CITY 8204

AND

Telegrams:—"KAMALA."

LONDON, PARIS, BARCELONA, MILAN, ALEXANDRIA, BOMBAY, CALCUTTA, DELHI, MADRAS, NEW YORK.

For PULP, COATING, or TINTING.

ALL COLOURS & CHEMICALS FOR THE PAPER TRADE**AYERS LIMITED**LACHUTE MILLS,
P. Q., — CANADA.For Home or Exportation.
Oldest and largest manufacturers
of Paper and Pulp Machine Felts
in Canada.**FELTS for**
PULP and PAPER MAKERSOUR SPECIALITY:**"KEK" Patent Grinding Mill**

For Chemicals, Colours, Dyes, Fibres, Minerals, &c.

Specialties: CHEMICAL PLANT, PANS, TANKS,
VACUUM DRYERS, &c.

— THE, —

Chemical Engineering Co. (Manchester), Ltd.,
49, Deansgate, MANCHESTER.**FRENCH RAGS.**

For all Enquiries apply to—

ETABLISSEMENTS SOULIER Soc. an^m

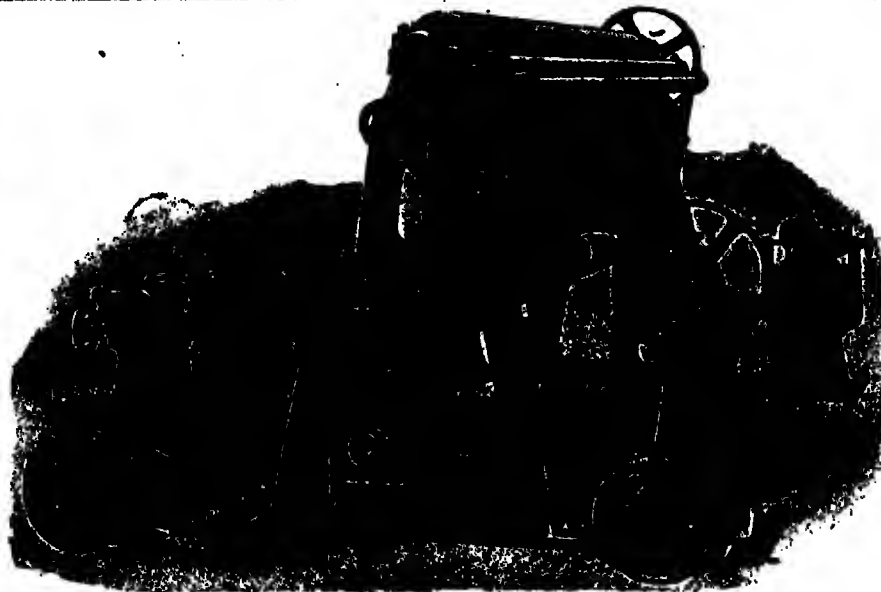
Capital - 2,500,000 francs.

Formerly JEAN SOULIER.

ALL GRADES OF LINEN COTTON JUTE RAGS.Speciality of **NEW CUTTINGS** of Best Quality.Address: **25, rue tous Vents, ROUEN (FRANCE).**

THE WEST END ENGINE WORKS Co.

Paper-Makers' Engineers



BRUSH DAMPING MACHINE.

Telephone No. :
1473 CENTRAL.

Telegrams :
"West End,
Edinburgh."

EDINBURGH

CROOKES, ROBERTS & CO.,

MAKERS OF GOEBEL CUTTERS

TOPS AND BOTTOMS.
Prices on application.

ARGUS
WORKS SHEFFIELD.

Telegrams
"ARGUS, SHEFFIELD."



Manufacturers of

RAG ENGINE
ROLL BARS

and

BED PLATES

in Crookes' Special Metal Composition.
Best Refined Crucible Cast and Selected
Steels.

TRAM AXLES AND FORGINGS
A SPECIALITY.

CIRCULAR KNIVES.

RAG AND ROPE CHOPPER KNIVES.

Doctor Blades. Cullotine and
all other Machine Knives,
and every description of
Tools used by Paper-Makers.

ARGUS Special High Grade Crucible
Steel for all Purposes.
ARGUS HIGH SPEED (all grades)

ELBOW PLATE



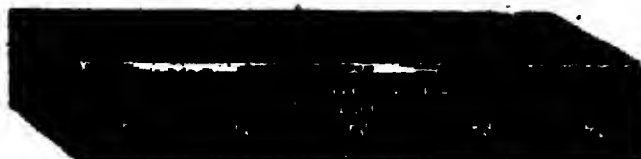
CIRCULAR
CUTTERS

ROLL BAR

CIRCULAR
CUTTERS



STRAIGHT PLATE



CHARLES WALMSLEY

Telegrams:- PUMPS, BURY.

Telephone:- 499, BURY.

Cables:- PUMPS, BURY, ENGLAND

Codes:- 5th EDITION, A-B-C WESTERN UNION

HIGH CLASS PAPER MACHINE

of all sizes up to a wire width of 240" and a speed of 1200 feet per minute.

ALSO OF

ALL OTHER MACHINERY

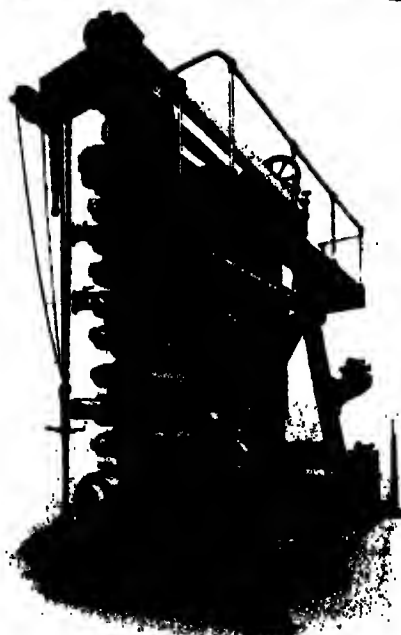
used in the manufacture of Pulp & Paper.

SUPER CALENDERS
for all Classes of Paper.

5 to 16 BOWL STACKS
Up to 162" working face.

Embody the latest modern practice, and of accessible and clean design.

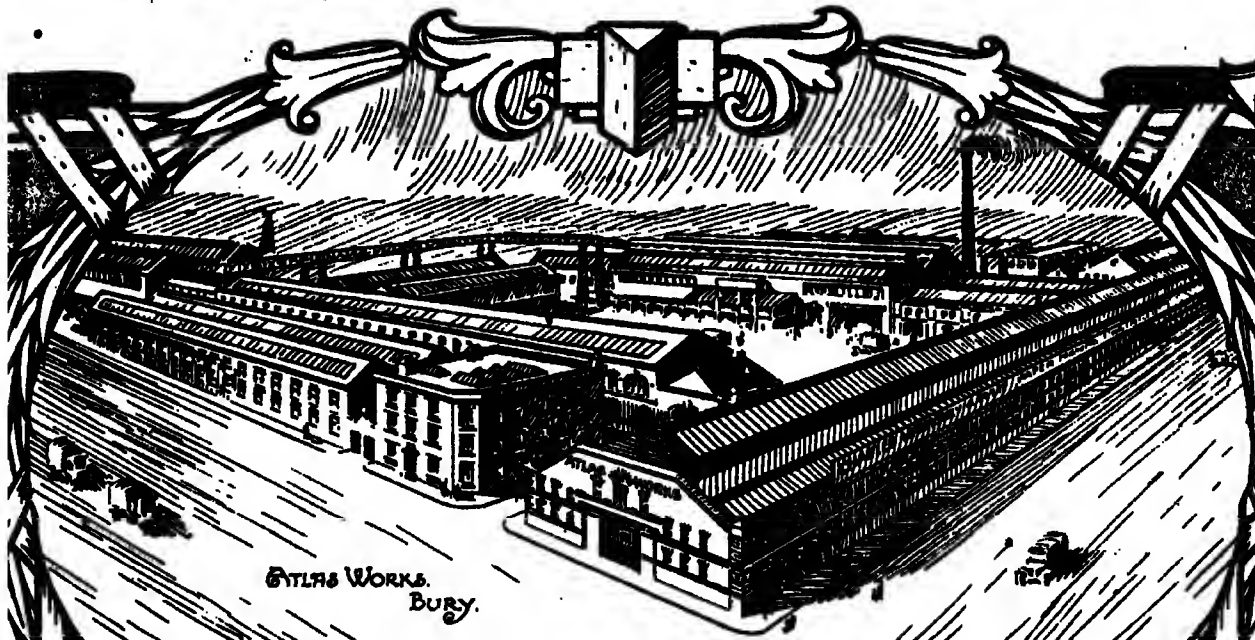
Chain, Belt or Direct Motor Driven, with Slow Feeding at 35 feet per minute. Maximum working speed up to 800 feet per minute.



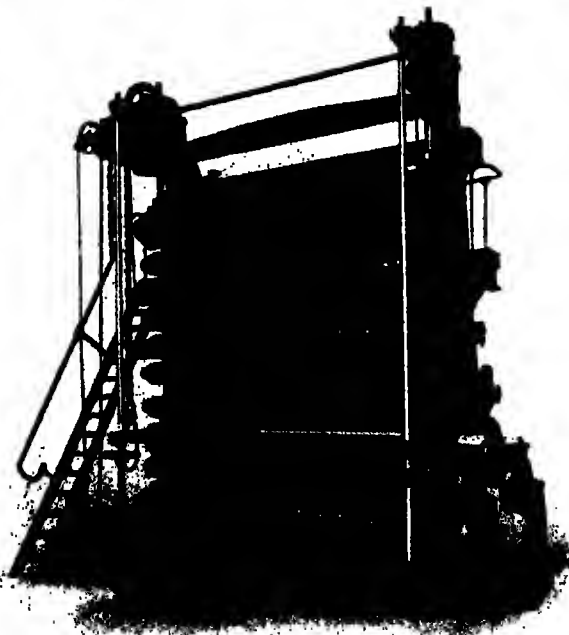
✱ BURY & M

Co., Limited

Established
1866



ATLAS WORKS.
BURY.



SINGLE, ANGLE
& DUPLEX
CUTTERS
With Improved
Drive.

SINGLE & FOUR
DRUM SLITTERS
& RE-WINDERS

SPRAY
DAMPERS, ETC

RICHESTER

WHITLEY PARTNERS,

Engineers and Brass Founders,
RAILWAY WORKS, LEEDS.

Calender Bowls and Paper Machine Rollers In Brass.

Paper-Makers should specify for

**Whitley's
Spun Brass Shells,**

Which are Unequalled in Density—being Non-Porous and Absolutely Free from Blow-Holes; are Economical in Price, and add practically nothing extra to the cost of Paper Machines.



THE DECEW-MARX

SIZING PROCESS

(PATENTED)

Uniform Sizing at Minimum Cost.

Important Saving of Resin and Alum.

Simple to Instal and Control.

No Intricate Emulsifier or Apparatus.

Cost only a Small Percentage of Savings Effected.

WRITE US.

R. J. MARX,

(LATE J. MARX & CO.)

**PAPER-MAKERS
ENGINEERS. . .**

133/139, FINSBURY PAVEMENT, LONDON, E.C.2.



Engineering Works:
CORONATION WHARF,
TOWNMEAD ROAD,
FULHAM, LONDON, S.W.6.

Telephone: PUTNEY 2476.
(2 LINES WITH PRIVATE EXCHANGE.)

Telegram: MASSIOUN, WALGREEN,
LONDON.



THE "MASCOT" CONICAL REFINER

ENORMOUS OUTPUT.

STRONG.

SIMPLE.

Made in 3 sizes and fitted with bronze or steel bars to suit our customers' requirements.

The design is the result of 35 years' experience.

WE INVITE YOUR ENQUIRIES FOR EVERY CLASS OF
**PAPER MAKING & PAPER FINISHING
MACHINERY.**

WOOD PULP SUBSTITUTE

Bleached or Unbleached
COTTON WASTE
free from foreign matter

GUARANTEED 95% PURE CELLULOSE

Send your enquiries to
us, when our services
will be at your command.

HOLT BROTHERS

Wharf Mill
BURY BRIDGE

BURY, LANCASHIRE

Telephone—332 BURY.

Telegrams—"BALES BURY."

The Annual Number of
THE PAPER-MAKER

—FOR 1919—20—

is now on Sale.

PRICE 3/-

Publishers:

S. C. PHILLIPS & CO., 47, Cannon St., E.C.4.

ROPE DRIVING

For **EFFICIENCY** and **DURABILITY** USE
KENYON'S

AWARDED
DIPLOMAS
OF HONOUR
AT
BRUSSELS
AND
TURIN.



Illustrated
Lecture on

"The Transmission of Power by Ropes"

Post Free, on application to—

WM. KENYON & SONS, Ltd.

CHAPEL FIELD WORKS,
DUKINFIELD, ENG.

Telephone Nos.: 494 Ashton; 6812 London Wall.
Telegrams: "Kenyon, Dukinfield"; "Kenyoneers, London."

LONDON OFFICE: 95 to 97, FINSBURY PAVEMENT.

BRANCH WORKS: ARMENTIÈRES, FRANCE. (1)

The Oldest Trade Protection Office in the United Kingdom.

ESTABLISHED 1776.

PERRY'S
TRADE PROTECTION OFFICES
(W. R. PERRY, LTD.)

26 & 27 BUSH LANE, CANNON STREET, LONDON,
WITH AGENTS AND CORRESPONDENTS THROUGHOUT THE WORLD.

Inquiries made as to the position and standing of Traders and others
in United Kingdom and Abroad.

PERRY'S GAZETTE AND LISTS OF CREDITORS

Are published weekly, and are invaluable to every one in business.

Names obtained of suitable Agents and Reliable Business Firms.

DEBTS RECOVERED AND PAID OVER PROMPTLY.

THE MOST ECONOMICAL POWER FOR MILLS AND FACTORIES.

"BELLISS" SELF-LUBRICATING ENGINES

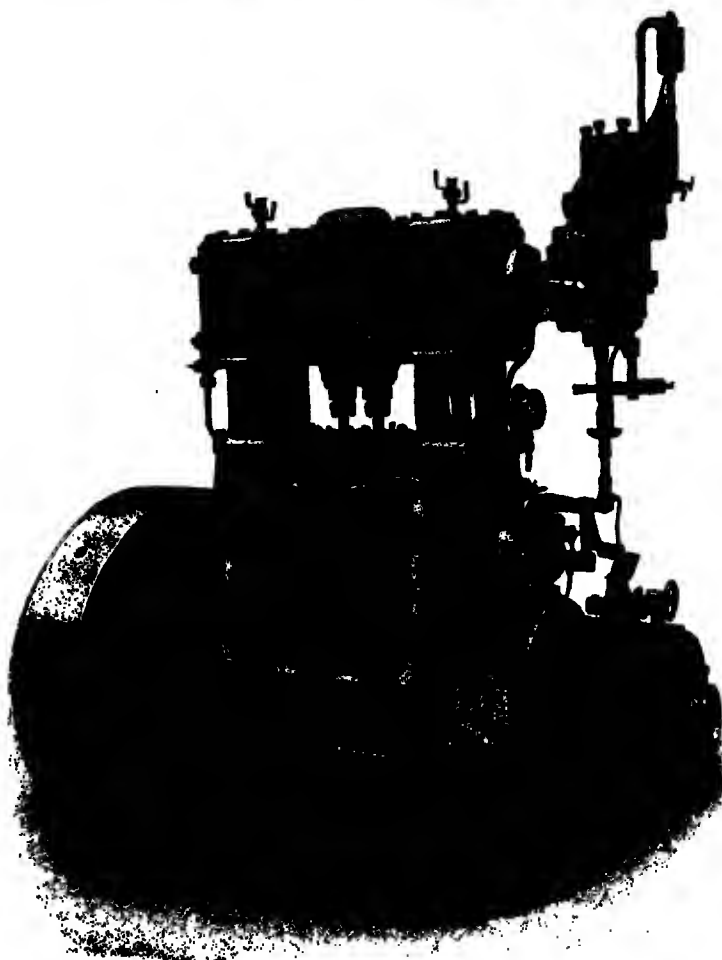
DESIGNED FOR
Exhausting to Heating Systems.

Other Specialities

—
**STEAM
TURBINES.**

—○—
**AIR
COMPRESSORS.**

—○—
**GAS
COMPRESSORS.**



Other Specialities

—
**CONDENSING
PLANTS.**

—○—
**HEAVY
OIL ENGINES
(Diesel Type)**

—○—
**PARAFFIN
ENGINES.**

Engine fitted with Belliss Patent Variable Speed Governor, avoiding the clumsy double cone pulleys and crossed belts usually fitted.

Telegrams:
"BELLISS, BIRMINGHAM."

ESTABLISHED 1852.

London Office:
25, VICTORIA STREET, S.W.1.

BELLISS & MORCOM, LTD.

BIRMINGHAM, ENGLAND.

Catalogues and Particulars on Application.

LORD'S BARNBROOK

(Late J. E. & R. LORDS)

Barnbrook Boiler Works, BURY,

Near MANCHESTER.

Telephone No. 226.

Established 1842.



REVOLVING GLOPICAL BOILER for Rags and Gun Cotton.

*Specialities:***CYLINDRICAL and SPHERICAL REVOLVING BOILERS
and DIGESTERS for Paper and Wood Pulp.****HIGH PRESSURE STEAM BOILERS.**

Telegrams: "Glee, Leith."

Telephone: Nos. 213 and 214.

E. CHALMERS & CO., LTD.
BONNINGTON, LEITH.**Linen Rags. Cotton Rags. Canvas.****Hemp Ropes. Manilla Ropes.****Jute and Flax Bagging.****Waste Papers. Strawboard Cuttings.****Paper Shavings (Cream, White, Coloured, &c.)
&c., &c. All thoroughly well classed.****ENQUIRIES INVITED.****SAMPLES ON APPLICATION.****N.B.—CASH OFFERS made for Disused Paper
or other Works for Dismantling purposes.****Scrap Metals (Iron, Brass, Lead, Zinc, &c.), Waste Rubber, &c., &c.,
purchased for prompt cash.****John W. Leitch & Co.**

LTD.

Milnsbridge Chemical Works,**Nr. HUDDERSFIELD,****MANUFACTURERS OF****Coal Tar Dyes for
Paper-Makers.****Telephone Nos.:
189 & 190 Milnsbridge.****Telegrams:
"Leitch, Milnsbridge."****London Office: 4, Broad Street Place, E.C.2.****Telephone:
LONDON WALL 6649 & 6647.****Telegrams:
"TOLIDINE AVZ LONDON."****Samuel O'Neill****and Sons, Ltd.****LINDEN MILL.
CASTLETON,
LANCASHIRE.****Makers of****Strawboard Centres
for Paper Makers.**

Coal Economy is in the Air

on the one hand
Natural Draught
with costly brick
chimney emitting
black smoke that
spells w-a-s-t-e
and the draught
at the mercy of
the atmospheric
conditions.



Send for Catalogue No. 1009

on the other hand
SIROCCO In-
duced Draught
with inexpensive
steel stack and no
wasteful smoke,
because the Fan
ensures perfect
combustion and
correct draught
at all times.

DAVIDSON & CO. LTD.

SIROCCO WORKS,
BELFAST.

...TRADE...



...MARK...

ESTABLISHED 1848.

THORNTON & CO., LTD.

India Rubber Manufacturers,
4, HANOVER STREET, EDINBURGH.

Makers of all kinds of Rubber Goods required in a Paper Mill

The "Amazon" Driving Belt. Deckle Straps.
Strainer Diaphragms. Machine Aprons. Valves.
Delivery and Suction Hose.
Hat Shaped Rubbers for Rotary Strainers.

BALATA BELTING.

Telegraphic Address: "THORNTON, EDINBURGH."

CODES: A B C, 4th and 5th Editions.
Lieber's 8-letter. Maroon International.

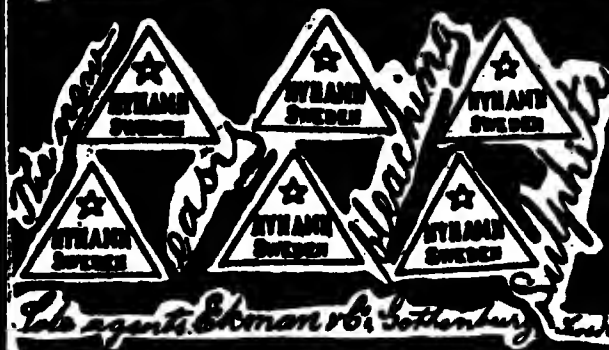
Telegrams: "KENYON, BURY."

James Kenyon & Son
LIMITED.

**PAPER-MAKERS'
FELTS.**

**Derby St. Mills,
BURY.**

Nyhamns Cellulosa Aktiebolag



KINNEAR

PATENT STEEL ROLLING

SHUTTERS

for
Car and Bus Depots,
Generating Stations,
Boiler Houses,
Harbour Warehouses,
Core Ovens,
Garages, and
Entrances Generally.

On Admiralty, War Office, and other Lists.

ARTHUR L. GIBSON,
Radnor Works, TWICKENHAM.

GLASGOW:
121, West George Street.

MANCHESTER:
60, Deansgate.

Russo-British Chamber of Commerce PETROGRAD.

An Association of English and Russian
Business Men, mutually interested in
Anglo-Russian Trade.

The First Chamber of Commerce in Russia.

Working in conjunction with the
RUSSIAN SECTION OF THE LONDON
CHAMBER OF COMMERCE

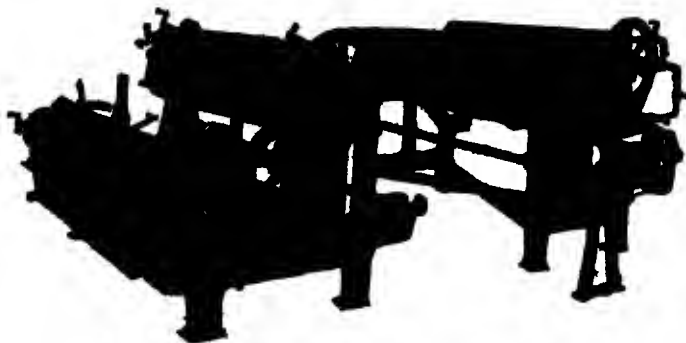
Membership about 1,200.

AGENCIES and CORRESPONDENTS in all the large
Centres of Russia, Great Britain and her Colonies.

Members receive: Free information on
questions of Commerce, Industry,
Agriculture and Finance relating to
the Russian and British Empires,
printed in English and Russian; Free
Copy of the Monthly Journal of the
Chamber; Free Insertion of Inquiries
in the Journal, and many other privi-
leges.

For further particulars apply to:—

THE SECRETARY, RUSSO-BRITISH CHAMBER OF COMMERCE,
4, Gorochevna, PETROGRAD.



TYPE 40 G. Semi and Full Wax Coating Machine
Patented in United States. Also in Great Britain, Canada and other Countries

Paper Coating Machines

Carbon Paper Coating Machines
Gumming and Gluing Machines

This machine will coat one or both sides of the paper with the exact amount of wax desired; with finest high gloss finish on self-sealing bread wrappers, also on both heavy or light papers; it can absorb the wax entirely into the paper, or retain most on the outside; also high grade dry waxed paper, and best grades of waterproof and oiled papers up to 72 ins. wide, at a fast rate of speed.

Please submit your problems to our Engineering Department for solution. This service rendered cheerfully and gratuitously implying no obligation whatever.

MAYER COATING MACHINES CO., Rochester, N.Y., U.S.A.

THE BRADFORD

STEAM TRAPS

The Latest and Best Positive Mechanical Action Instantaneous Opening and Closing. Unequalled Capacity Thousands Working.

Sent on Approval and Guaranteed

THE UNITED STATES METALLIC PACKING CO. LTD.

SOHO WORKS, ALLERTON ROAD ————— BRADFORD

Telegrams "JEBB, NEWCASTLE"
Telephones N° 3325 & 3326 Central

Branches at
VICTORIA MILLS, HECKMONDWICK
SALMON QUAY, SOUTH SHIELDS

Jebb Brothers Ltd.

NEWCASTLE ON TYNE

ESTABLISHED 1858.

BY ORDER SUBJECT TO REPLY
POST UNLESS OTHERWISE STATED

Registered Office
30, HOWARD STREET,
NEWCASTLE ON TYNE,
ENGLAND

CONNECTION WITH
ANY OTHER FIRM

HOWARD STREET WAREHOUSE

BRIDGE STREET WAREHOUSE

ROBERTSON STREET WAREHOUSE

BENTLEYS CODE
WASTE MERCHANTS CODE.
CODE FOR CABLES
A B C 5TH & 6TH EDITION

GOODS ADDRESS
NEW BRIDGE STREET STATION,
NEWCASTLE-ON-TYNE NERY
ESTABLISHED 1858.

DEPARTMENTS.

NEW LINEN AND COTTON BAGS,
OLD LINEN AND COTTON BAGS,
in all grades and colours.

OLD AND NEW LINEN AND
COTTON SACKS, TARRED AND
UNTARRED HEMP AND MANILLA
ROPE, HEMP TWINE, etc.

OLD LINEN AND JUTE BAGGING,
JUTE AND LINEN WASTE, etc.

WASTE PAPERS IN ALL GRADATIONS
PAPER SHAVINGS, LINTERS,
PAMPHLETS, NEWSPAPERS, etc.

Telegrams: "Prosperous, Cent. London."

Telephone: Central 13489.

W. D. EDWARDS & SONS, Ltd.,

75, KNIGHTRIDER STREET, E.C.4.

**WHOLESALE PAPER
MERCHANTS & AGENTS****LARGE STOCKS OF WRAPPING AND
BAG PAPERS, GREASEPROOFS, Etc.****GROSE & STOCKER, STOKE-ON-TRENT.**Established
over 60 years.All qualities of **CHINA CLAY** for Paper Makers.

Special qualities for Coating.

Also PEARL WHITE, MINERAL WHITE, and TERRA ALBA of the finest qualities.

Stocks kept at FLEETWOOD, GARSTON, RUNCORN.

Sub-Office: 9, Hopwood Avenue, Market Place, MANCHESTER.

Telephone: 612.

Samples and Prices on Application.

Telegrams: STOCKER, STOKES-ON-TRENT.

MANCHESTER CHINA CLAY CO., Ltd., 4 ST. ANN'S SQUARE,
MANCHESTER.Telegrams:
"Kaolin, Manchester."
Nat. Tel.: 3086.

JOHN WILLIAMSON, Manager, Royal Exchange, No. 23, Manchester.

Representatives for Scotland: W. G. TAYLOR & CO., Ltd., 29, St. Andrew Square, Edinburgh.

Trade  Mark
Registered.All Qualities of **China Clay** Used by
Paper Makers

Mines: ST. AUSTELL, CORNWALL.

Stocks at Manchester, Runcorn, Preston, and Leith.

CHARLES BAKER & Co., Paper Makers' Agents,

77a, QUEEN VICTORIA STREET, LONDON, E.C.

Telephone: City 4510 (4 lines).

SPECIALITIES:—

Telegrams: "Glazed, Cent., London."

**WHITE and SUPER CALENDERED PRINTINGS, WRITINGS, BANKS, CARTRIDGES, GREASEPROOFS,
IMITATION PARCHMENTS, KRAFTS, BROWNS, M.G. POSTERS, VEGETABLE PARCHMENTS, CAPS, &c.**SOLE AGENTS FOR
(Midland Counties & London)**THE HARTLEPOOLS PAPER MILL CO., LTD.**

ALSO AGENTS FOR "218" MILL.

Established 1819. Telegrams—"Dyestuff, Manchester." Post Box—455 Manchester. Telephone—1313 & 1314 City.

MILLWARDS MERCHANDISE LTD.

14a, Blackfriars Street, MANCHESTER.

**CHEMICALS, COLOURS & REQUISITES
FOR PAPER MAKERS AND STAINERS.****New Edition is now on Sale.
Phillips' Paper Trade
Directory of the World.****THE MOST COMPLETE PUBLICATION EXTANT
CONNECTED WITH THE PAPER TRADES. . .**

Price 21/- Post free.

Publishing Office 47, CANNON STREET, LONDON, E.C.4.

Brunner, Mond & Co.

LIMITED.

NORTHWICH, CHESHIRE, ENGLAND.



The Strongest and Purest form of the Article in the Market
and therefore the most economical for the use of Paper-Makers.

CAUSTIC SODA.

Exceptionally
Pure.

76/77% 70/72% 60/62%

High
Strength.

The CULTER MILLS PAPER CO., LTD.

Telegraphic Address:
"NINEMILL, LONDON."

Telegraphic Address:
"NINEMILL, PETERCULTER."

Manufacturers of

Art Papers and Boards

Dull and Bright Enamels

Cloth-Lined Papers & Boards

E.S. Writings and Printings

Sensitized Cheque Papers.

Superfine Tinteds

Tub-sized Writings

Imitation Hand-made with

Deckel Edge for Notepaper
and Fine Book Work

LONDON WAREHOUSE: 218, UPPER THAMES STREET, E.C.
WORKS—CULTER, PETERCULTER, ABERDEENSHIRE.

MILL No. 9.



SIR JAMES FARMER & SONS LTD
ADELPHI IRONWORKS
SALFORD MANCHESTER

EXPERIENCE TEACHES

Nearly 70 years' experience
of the requirements
of the Paper Trade.

We are among the largest
makers of Bowls in the
world to the Paper Trade,
and make all sizes of
Bowls to the largest
sizes used in
the trade.

